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GOAL PROGRAMMING ESTIMATES OF LIVESTOCK
ROUGHAGE CONSUMPTION, BY TYPE OF
ROUGHAGE, BY STATE, 1971-73

George Allen, et al

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by George Allen, Greg Gage,
Larry Otto, Jerry Plato,
and Reuben Weisz

U.S. Department of Agriculture
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PREFACE

As the title suggests, the data on roughage consumption by type of livestock, type of roughage, and State as presented in the tables are not official estimates of the U.S. Department of Agriculture. The goal programming procedure (described in this manuscript) used for generating this data is a novel analytical technique. Its application should be viewed as a preliminary test of a potentially useful mathematical model. Hence, the reader should exercise caution in using and interpreting the results.

These estimates of consumption were initially developed for use by researchers involved in making long-range (that is, 10- to 50-year) projections of agricultural uses of natural resources. Those who have utilized the data presented here have modified the estimates to account for several factors:

1. Data have been examined and adjusted to more adequately reflect reality based on the judgment of the analysts.
2. The results presented here are averages by type of livestock, type of roughage, individual State, and individual feed year. The actual numbers utilized for projections are usually aggregates and averages of these figures. For example, researchers have felt that the results are more valid when State data are aggregated to larger production regions, roughage categories are aggregated into more comprehensive conglomerates, and data for several years are averaged.
3. Before historical data are utilized for long-range projections, they must be modified to reflect changes expected in technology, demand, and costs of production.

Researchers using these data bear the responsibility for justifying their use and documenting whatever modifications and data processing have been applied to the data prior to making long-range projections.

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GOAL PROGRAMMING ESTIMATES OF LIVESTOCK ROUGHAGE CONSUMPTION, BY TYPE OF ROUGHAGE, BY STATE, 1971-73

By George Allen, Greg Gage, Larry Otto,
Jerry Plato, and Reuben Weisz ^{1/}

INTRODUCTION

Relevancy of Data on Roughage Utilization

Feed utilization data contained in the tables of this manuscript were developed for researchers involved in making long-range national projections of the agricultural economy. Many economists are concerned with evaluating how adequately the land and water base of the United States can support the demand for food and fiber under a variety of scenarios. In the future, a major component of demand for agricultural products will be for livestock commodities. A major ingredient in the total U.S. feed supply will be roughages and forage production: these will constitute a major if not dominant use of agricultural land. Therefore, an analysis of historical livestock roughage utilization data can be used to give an estimate of future requirements for roughages and roughage-producing land.

Relevancy of Regional Data

In many types of resource analysis, economists are interested in the spatial pattern of technological, economic, and environmental impacts created by changes in the agricultural economy. Typically in these studies, U.S. land resources are divided into a large number of homogeneous producing and consuming regions on the basis of differences in soil productivity, weather, transportation costs, and the like. Existing and emerging differentials in comparative advantages among regions over time result in regional shifts in production which are projected by the analyses. This report shows regional differences in the utilization of roughages by livestock and major implications for long-term land use projections.

Relevancy of the Methodology

In the past, statistics similar to those presented here were derived as a result of surveys of the literature and communications with knowledgeable experts in the field. The analysts, examining a large volume of data on livestock-feed utilization, drew from a variety of different sources and developed the most plausible or probable explanation to rationalize existing data. This approach relied heavily on professional judgment and hand calculations.

Because the approach described in this report uses sophisticated systems analysis techniques to derive the same types of statistics, there may be a natural reaction to view this study as an example of modeling gone wild. The authors of this report would argue against this conclusion.

The approach taken is consistent with the traditional literature on this subject. The methodology employed, the goal programming technique, is an outgrowth of linear programming. The classic application of linear programming to the problem of determining the quantities of different types of feed meeting nutritional requirements at a minimum

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cost is well known and widely utilized. The technique can also be used to ascertain the quantities of roughages that should be fed to satisfy certain nutritional requirements in a realistic ration.

Goal programming uses a similar set of constraints to that employed by the linear programming algorithm. The major difference is that whereas the linear program defined feed assignments on the basis of a least cost criterion, the goal programming algorithm uses a priority ranking system which is a quantification of the "highest and best use" criteria employed in earlier studies. Essentially this approach forces the analyst to quantify and document any rules of thumb. The benefit of this approach is that it provides an explicit, objective, fully documented procedure for generating roughage utilization data on a timely basis. Since the same methodology is applied to each region considered by national models, a consistent set of statistics is derived for the United States. This reduces the possibility of projecting regional shifts in production which might be due to applying a unique type of data development procedure to each livestock production region.

The Goal Programming Concept

Goal programming is an extension of linear programming. The typical linear programming problem contains a single objective function which is maximized or minimized, subject to a set of constraints. The typical goal programming problem contains multiple conflicting objectives or goals which are evaluated subject to a set of constraints.

Each one of the multiple objectives in the goal programming problem is referred to as a "goal" or a "goal constraint." The other mathematical relationships in the goal programming problem are called "nongoal constraints." The goal programming algorithm develops a solution to a multiple objective problem by minimizing the nonattainment of all goals subject to the restrictions imposed by the nongoal constraints.

Prior to using the goal programming algorithm, the analyst must specify the decision variables, the nongoal constraints, and the goal constraints. The analyst must also assign a priority rank to each goal. Whenever several goals are assigned the same level of priority, differential weights are assigned to each of the goals within a priority level. Priority ranks and differential weights indicate to the algorithm the relative importance of each goal with respect to every other goal.

Optimal solutions to the goal programming problem are obtained by an iterative procedure that is similar to the simplex method of linear programming. These solutions are derived by minimizing the nonattainment of goals in the order specified by the priority ranking scheme.

On the first iteration, the program considers the goal that has the highest priority--that is, the goal whose rank is equal to "1." The algorithm develops a solution which comes as close as possible to attaining this goal while not violating the nongoal constraints. When this is accomplished, the second priority goal is considered. The algorithm moves the solution as close as possible to the second goal; this movement is subject to two sets of constraints:

- (a) The original set of nongoal constraints;
- (b) The goal constraint established by the preceding iteration--that is, that the new solution be just as close to goal 1 as the preceding solution.

The iteration process continues. At each step, as the procedure evaluates and moves the solution toward a lower level goal, it does so under the constraint that the distance to higher and previously evaluated goals will not increase. When all of the

goals have been evaluated, the search procedure is terminated.

This report illustrates how the programming algorithm can be applied to livestock ration problems. Data for the State of Wisconsin are used to show how the model is set up and run. Input data requirements for applying the model to each of the 48 contiguous States are described, followed by the running of the model for each State.

Those desiring more information about goal programming concepts are referred to Goal Programming for Decision Analysis by Sang M. Lee, Auerbach Publications, Inc., Philadelphia, Pa., 1972. The computational algorithm described here is a modification of the REACT II program. For more detailed information about the REACT II program, see the General User's Manual: Goal Programming Algorithm: Report No. 1 by Kenneth E. Bottoms and Randal P. Pope, Range Science Dept., Colorado State University, Fort Collins 1975.

The REACT II program was designed to run on a UNIVAC 1108 computer. The authors of this report have modified REACT II so that it may be run on the National Bureau of Standards computer in Gaithersburg, Maryland, from a remote terminal in the GHI building in Washington, D.C. An improved version of REACT II is also planned for the Washington Computer Center. This version is documented in GOAL--Multiple Objective Programming: Report No. 21 by E.T. Barlett, K.E. Bottoms, and R.P. Pope, Range Science Dept., Colorado State University, Fort Collins, 1975.

THE GOAL PROGRAMMING MODEL

General Form of the Mathematical Model

The general form of the goal programming problem can be expressed as:

$$(a) \text{ Minimize } Z_j = C_{j1} X_1 + \dots + C_{jN} X_N$$

where $j = 1, 2, \dots, P$

$$(b) \text{ Subject to } A_{i1} X_1 + A_{i2} X_2 + \dots + A_{iN} X_N \leq, \text{ or } >, B_i \quad (\text{relationship a})$$

$$\text{or either } \leq \text{ or } > B_i; \quad (\text{relationship b})$$

where $i = 1, \dots, M$

$$(c) \text{ And } X_1, X_2, \dots, X_N \geq 0.$$

Relationship "a" holds if B_i is a goal.

Relationship "b" holds if B_i is the right-hand-side of a nongoal constraint.

Most of the mathematical symbols in the above relationship have the usual linear programming definitions. Z_j is the value of the objective function, C_{jn} is an object row coefficient, X_n is a decision variable, A_{in} is a left-hand-side parameter (or technical coefficient), and B_i is a right-hand-side value. Two new notation devices indicate the differences between goal and linear programming. The subscript j on the variable Z indicates that there can be more than one objective function. The symbols, \leq , $=$ or $> B_i$, indicate that a goal either may, or may not, be attained. The symbols, \leq or $> B_i$, indicate that the strict upper and lower bounds on the nongoal constraints cannot be violated.

Simplified Example of a Goal Problem

Numerous examples of goal programming problems can be given. A national objective

might be to maximize GNP, for example, while getting unemployment as close to 4 percent and inflation as close to 3 percent as possible, and getting the GINI ratio on the Lorenz curve as close to 0 as possible. For the purposes of illustration, here, we will use a less interesting but more relevant example.

Assume that we want to determine the types and quantities of roughages consumed by milk cows in Wisconsin during the 1971 feed year. All feed units in this example will be stated in terms of corn equivalents. Feed unit values of hay, alfalfa, and corn silage will be .4, .6, and .15, respectively. Given the total number of milk cows in Wisconsin and the nutritional feed requirements established by the National Academy of Science, one determines that milk cows in Wisconsin should consume 6,019 metric tons of feed units from roughages. ^{2/} If the ratio between hay and all roughages is the same for Wisconsin as it is at the national level, then milk cows in Wisconsin should consume 1,953 metric tons of feed units for all hay--that is, alfalfa and other hay. The national ratio of silages consumed to total roughages consumed suggests that milk cows in Wisconsin will consume 1,571 metric tons of feed units from silage. If we assume no interstate shipments of roughages, then consumption of roughages other than pasture is constrained by total roughage production in Wisconsin. Any additional roughage requirements that are not satisfied by all hay and silage consumption are assumed to be derived from pasture. Using production figures from the former Statistical Reporting Service associated with the 1971 feeding year and assumptions related to losses from waste and shrinkage, we will assume that the total amount of other hay available is 1,504 metric tons and the total amount of alfalfa available is 5,736 metric tons. Silage available equals 6,563 metric tons.

Let

X_1 = the number of metric tons of instate other hay consumed by milk cows in Wisconsin.

X_3 = the number of metric tons of instate alfalfa hay consumed by milk cows in Wisconsin.

X_5 = the number of metric tons of corn silage consumed by milk cows in Wisconsin.

X_7 = the number of metric tons of feed units derived from other roughages (such as pasture) consumed by milk cows in Wisconsin.

All of the preceding ration relationships may now be expressed in mathematical form as:

$$(4) \text{ Row 1: } .4X_1 + .6X_3 + .15X_5 + 1.0X_7 = 6019.0 \text{ total metric tons of feed units needed from roughages}$$

$$(5) \text{ Row 2: } .4X_1 + .6X_3 = 1952.6 \text{ metric tons of feed units of hay required to meet national average}$$

$$(6) \text{ Row 3: } .6X_3 \leq 999,999 \text{ instate alfalfa goal}$$

$$(7) \text{ Row 4: } .15X_5 = 1570.7 \text{ feed units of silage required to meet national average}$$

^{2/} "Metric tons" in this text actually refers to thousands of metric tons. In other words, 6,019,000 metric tons of feed units were consumed from roughages. This is merely a shorthand convenience.

- (8) Row 5: $1.0X_1$ ≤ 1504.35 total other hay available
 (9) Row 6: $1.0X_3$ ≤ 5735.73 total alfalfa available
 (10) Row 7: $1.0X_5$ ≤ 6563.10 total corn silage available

Note: The rationale for including the row whose right-hand-side value is $\leq 999,999$ will be given later.

The analyst must review the above mathematical constraints and decide which are goal and which are nongoal constraints. Before describing how this is done in the simplified problem, the difference between a goal and a nongoal constraint must be explained.

At first glance, it may not appear possible to simultaneously satisfy the three equality constraints (that is, Rows 1, 2, and 4) while at the same time satisfying the three resource availability constraints (that is, Rows 5, 6, and 7). For example, Row 4 states that if milk cows in Wisconsin obtain the same percentage of their total roughage requirements from silage as the average for milk cows on the national level would suggest, then milk cows in Wisconsin should consume $1,570 \div .15 = 10,471$ metric tons of silage. However, as Row 7 indicates, there are only 6,563 metric tons of silage available. If this were a linear programming problem, constraint 4 would be violated. Since more silage is required for consumption than has been produced, there would be no feasible solution to a linear programming problem that had this set of constraints. The analyst who uses a goal programming algorithm can avoid this difficulty by treating Row 4 as a goal constraint. This can be accomplished by instructing the algorithm to treat the 10,471-metric-ton silage figure as a goal. That is, the feed units from silage to feed units from all roughages ratio for Wisconsin should come as close to the national average as possible. However, if the national average cannot be attained, the algorithm can and should continue allocating other roughages to meet the total feed units from roughages requirements of Wisconsin's milk cows. By applying this same reasoning to other constraints, Rows 1, 5, 6, and 7 may be classified as nongoal constraints, while Rows 2, 3, and 4 are classified as goal constraints. The problem may thus be reformulated as:

- (11) Row 1: $4X_1 + .6X_3 + .15X_5 + 1.0X_7$ $= 6019.0$
 (12) Row 2: $4X_1 + .6X_3 +$ $d_2^- - d_2^+$ $= 1952.6$
 (13) Row 3: $.6X_3 +$ d_3^- $= 999,999.0$
 (14) Row 4: $.15X_5 +$ $d_4^- - d_4^+$ $= 1570.7$
 (15) Row 5: $1.0X_1$ ≤ 1504.35
 (16) Row 6: $1.0X_3$ ≤ 5735.73
 (17) Row 7: $1.0X_5$ ≤ 6563.10

In the above formulation, all rows have the same numbers that they had earlier. However, a negative (d_i^-) and/or a positive (d_i^+) deviational variable has been added to each goal row i .

As previously stated, it was not possible to meet the Row 4 constraint that $.15X_5 = 1504.35$. This was because the constraint on corn silage available would have prevented the algorithm from achieving the 1,504-metric-ton silage goal. In goal programming terminology, we would say that the algorithm came approximately 586 feed

units away from the goal; only approximately 984 feed units could be provided due to the corn silage availability constraint. If d_4^- is the negative deviational variable which measures the underachievement of the goal in Row 4, the d_4^+ is the corresponding positive deviational variable which measures the over achievement of the goal in Row 4. Row 4 can then be rewritten as in equation (14), above. That is:

$$\text{Row 4: } .15x_5 + d_4^- - d_4^+ = 1570.7. \text{ In the solution, } .15x_5 = 984, d_4^- = 586 \text{ and } d_4^+ = 0.$$

If both of the deviational variables for this row could have been minimized to their zero values, the national silage goal level would have been met. However, due to the nongoal constraints, only the positive deviational variable was driven to zero; the minimum feasible value for d_4^- , as defined by the nongoal constraints, was 586.

As is partially illustrated in table 1, in goal programming all mathematical relationships are assigned a letter type code which describes the type of relationship. Nongoal constraints that are equality relationships are assigned an "E" code. For other constraints, "less than or equal to" relationships are designed by "L" and "greater than or equal to" relationships are designated, by "G." Goal constraints that allow both types of deviational variables d^- and d^+ , are assigned a "B."

Once the goal and nongoal constraints have been formulated, the analyst must assign a set of ranks which indicate the priority of each goal. In the example, this will be done according to the following logic. The purpose of applying the goal programming algorithm is to assign available roughages to milk cow consumption in Wisconsin, according to some set of rules that will result in a realistic ration. In general, these rules are based on a ranking of animal groups and on a ranking of feeds within animal groups according to subjective "highest and best use" criteria. Special nutritional requirements of each animal group and economic returns of alternative feed sources and uses are the considerations used in arriving at the highest and best use criteria. These rules are based on the rationale that each feed will first be allocated to its highest and best use, subject to "special" nutritional requirements of each livestock category.

Table 1. Sample problem formulation

Constraint: or goal row number	Constraint or goal description	Coefficients associated: with each variable				Type of equality	Right-hand-side value or goal level
		x_1	x_3	x_5	x_7		
1	Total feed required	.4	.6	.15	1.0	E	6019.0
2	National hay goal	.4	.6			B	1952.6
3	Instate alfalfa goal		.6			L	999999.0
4	National silage goal			.15		B	1570.7
5	Total hay available	1.0				L	1504.35
6	Total alfalfa available		1.0			L	5735.35
7	Total corn available			1.0		L	6563.10

If it is assumed that silage will always be consumed when available, then the silage goal can be assigned a rank of 1. This allows the priority 1 row of the objective function to be defined as:

$$(20) \text{ Minimize } Z_1 = P_1 d_4^- + P_1 d_4^+.$$

In this case, Z_1 is equal to the underachievement, or overachievement, of the priority 1 objective function. P_1 signifies the priority 1 goal, and the subscripts on d_4^- and d_4^+ , indicate that the deviation variables are derived from the fourth constraint equation. By minimizing the value of the objective function Z_1 , the algorithm will minimize the total distance, $d_4^- + d_4^+$, to the Row 4 goal, subject to the original set of nongoal constraints. Once this is accomplished, the algorithm will begin to evaluate the next priority goal with the additional constraint that the values of d_4^- and d_4^+ do not change while the solution moves as close as possible to the second goal.

Once the priority 1 objective function is minimized, the analyst may wish to see the national hay goal achieved. This goal specifies that the total number of feed units from other hay ($.4X_1$) and alfalfa ($.6X_3$) come as close as possible to 1952.6. This objective is expressed mathematically as:

$$(21) \text{ Minimize } Z_2 = P_2 d_2^- + P_2 d_2^+.$$

Once the nonachievement of the national hay goal is minimized, the analyst may wish to assign as much of the total hay consumption to alfalfa as possible. The reasoning behind this is that milk cows in Wisconsin will be fed alfalfa in preference to other hay. The instate alfalfa goal, Row 3, is thus utilized to develop the priority 3 objective function.

Table 2. Goal Summary

Constraint: number	Goal description	Priority: weight	Type of achievement	Deviation variable to be minimized	Type of equality	Goal value
4	National silage goal	P_1	Under	d_4^-	B	1570.7
4	National silage goal	P_1	Over	d_4^+	B	1570.7
2	National hay goal	P_2	Under	d_2^-	B	1952.6
2	National hay goal	P_2	Over	d_2^+	B	1952.6
3	Instate alfalfa goal	P_3	Under	d_3^-	L	999999.0

Note: All other constraints (1, 5, 6, and 7) are nongoal constraints.

$$(22) \text{ Minimize } Z_3 = P_3 d_3^-.$$

Because of the high right-hand-side value of Row 3, the instate alfalfa goal will never be achieved. It will either be constrained by the total alfalfa available in Wisconsin (Row 6), or the total roughage feed unit requirement remaining after silage consumption.

Table 2 summarizes the goal descriptions contained in the preceding paragraphs. Together with table 1, it includes most of the information that is a prerequisite to running a goal programming program. Specifically, the analyst must:

- (a) Define the problem to be represented by the model;
- (b) Quantify the goals and constraints;
- (c) Decide which deviational variables d^- and/or d^+ are allowed;
- (d) Assign the appropriate equality type (E, B, G, or L);
- (e) Decide which of the deviational variables are to be minimized and at what priority; and
- (f) Run the problem and interpret the results.

Often, the results of step "vi" above will result in new insights which will compel the analyst to redefine the problem and repeat the six steps.

For example, let us say that after the problem illustrated in tables 1 and 2 is solved, we realize that there is a large amount of alfalfa and/or other hay produced within the State, but not allocated to consumption by the goal programming algorithm. This suggests that livestock in this example may be consuming alfalfa and/or other hay at a rate which is greater than the national average would suggest.

Let:

XX_1 = the quantity of other hay that is consumed in excess of the amount suggested by the national average;

XX_2 = the quantity of alfalfa that is consumed in excess of the amount suggested by the national average.

Let us further assume that the maximum ratio of feed units from all hay consumed to total roughages consumed is equal to 180 percent of the national average. The initial problem formulation example may then be redefined to account for the fact that consumption may exceed the figures suggested by the national average (tables 3 and 4).

USER'S GUIDE TO THE GOAL PROGRAMMING MODEL

This livestock feed ration problem for the State of Wisconsin illustrates a more complicated goal programming problem. In many ways the problem is similar to the preceding simplified problem for milk cows. However, this expanded version of the roughage ration problem includes more categories of livestock--milk cows, other dairy, cattle on feed, other beef, sheep on feed, stock sheep, and hogs, as well as horses and mules. The types of roughages available include instate other hay, out-of-State other hay, instate alfalfa, out-of-State alfalfa, corn silage, and other types of roughage such as pasture.

Table 3. Second problem formulation example

Constraint: or goal row number	Constraint or goal description	Coefficients associated with each variable						Type of equality	Right-hand- side value or goal level
		X	XX	X	XX	X	X		
		1	1	3	3	5	7		
1	Total feed required	.4	.4	.6	.6	.15	1.0	E	6019.0
2	National hay goal	.4		.6				L	1952.6
3	Instate alfalfa goal			.6				L	999999.0
4	National silage goal					.15		B	1570.7
5	Total hay available	1.0	1.0					L	1504.35
6	Total alfalfa available			1.0	1.0	1.0		L	5735.35
7	Total corn avail- able							L	6563.10
8	Upper bound for all hay		.4		.6			B	881.0
9	Upper bound alfalfa				.6			L	999999.0

Table 4. Second goal summary example

Constraint: number	Goal description	Priority: weight	Type of achievement	Deviational variable to be minimized	Type of equality	Goal value
4	National silage goal	P_1	Under	d_4^-	B	1570.0
4	National silage goal	P_1	Over	d_4^+	B	1570.7
2	National hay goal	P_2	Under	d_2^-	L	1952.6
3	Instate alfalfa goal	P_3	Under	d_3^-	L	999999.0
8	Upper bound for all hay	P_4	Under	d_8^-	B	881.0
8	Upper bound for all hay	P_4	Over	d_8^+	B	881.0
9	Upper bound alfalfa	P_5	Under	d_9^-	L	999999.0

Note: All other constraints (1, 5, 6 and 7) are nongoal constraints.

A model similar to this one was run for each of the 48 contiguous States with only slight modifications according to State. Modifications possible included different livestock and roughage categories, different quantities of roughages consumed in each State, and different quantities of roughages produced in each State.

Two separate runs were conducted for each State. The first run was made under the assumption that no interstate shipments of roughages were allowed. This assumption was relaxed prior to running the model again. After examining and interpreting the results of the first run, professional judgment was utilized to determine the levels of interstate shipments of roughages required to give each State more realistic results. These exogenously determined interstate shipments were utilized as input data for the second runs of the model.

Because the model was run 96 times (twice for each of the 48 States) a standard set of mnemonic codes was utilized to assign constraint row and variable (or column) names. This facilitated making the modifications required in going from one State to the next.

Mnemonic Codes

Row Names

Three types of rows were utilized in this study. Consumption rows indicated the quantities of roughages required or desired to satisfy feed requirements. Production rows indicated the number of feed units of roughages produced within the boundaries of the State. The accounting rows were utilized to tabulate the total quantities of roughages consumed across all livestock categories. Each category of livestock has its own set of consumption rows. All categories of livestock use the same production and accounting rows.

Consumption Rows. Each consumption row has a four character mnemonic name. The first character is the letter "R," indicating a row name. The next two characters identify the livestock category; these codes and their descriptions are given in table 5. The last character, a number, indicates the specific type of consumption row associated with this relationship. The numerical codes and their associated descriptions are illustrated in table 6. For example, the name, RMC1, indicates that this is the row (R) for milk cows (MC) that defines the total number of feed units required from roughages (1).

Table 5. Livestock codes for consumption rows

Mnemonic code		Livestock category
MC	:	Milk cows
OD	:	Other dairy
CF	:	Cattle on feed
OB	:	Other beef
SF	:	Sheep on feed
SS	:	Stock sheep
HO	:	Hogs
HM	:	Horses and mules

Table 6. Codes that indicate the type of consumption row

Mnemonic code	Description of row
1	This row defines the total minimum number of feed units that must be derived from roughages. This is the total for all livestock in the State. Minimum requirements are obtained from the National Academy of Science reports.
2	This row defines the quantity of feed units of alfalfa and other hay the category of livestock in this State must consume if the national hay goal is to be achieved. The national hay goal is the product of total feed required (from "1" above) multiplied by the national ratio of feed units from all hay to feed units from all roughages that are consumed by this category of livestock.
3	This number stands for the instate hay goal. It was not used in this study.
4	This row defines the quantity in feed units of out-of-State other hay that is consumed by this category of livestock. Out-of-State other hay is set equal to zero on the first model run for each State. It is exogenously determined for subsequent runs on the basis of professional judgment.
5	This row arbitrarily selects a large upper bound on the quantity of instate alfalfa that can be consumed by this category of livestock. Although this relationship is an unattainable goal, the upper bound forces this category of livestock to obtain as much of its hay requirements as possible from alfalfa (to the extent that other constraints permit it to do so).
6	This row defines the quantity in feed units of out-of-State alfalfa that is consumed by this category of livestock. This is set equal to zero for the first model run for each State. It is exogenously determined for subsequent runs on the basis of professional judgment.
7	This row defines the quantity of feed units of corn and/or sorghum silage this category of livestock in this State must consume if the national silage goal is to be achieved. The national silage goal is the product of total feed required (from "1" above) multiplied by the national ratio of feed units from all silage to feed units from all roughages consumed by this category of livestock.
8	This row defines the upper bound on the number of feed units (of alfalfa and other hay) in excess of the national hay goal this category of livestock may obtain from hay.
9	This row has the same definition as row 5.

Production rows. The production row names also begin with the letter "R." Their names and descriptions are given in table 7.

Accounting rows. The accounting row names also begin with the letter "R." Their names and descriptions are given in table 8.

Column Names

Aside from the IHC, OHC, IAC, OAC, CSC, SSC, and PAC column names which have been defined in table 8, each column name indicates the total quantity in thousands of metric tons of a specific type of roughage that is consumed by a specific category of livestock. Each column has a four-character mnemonic name. There are two types of names for columns--"b" type names and "X" type names.

"b" type names: The first two characters in a "b" type name identify the livestock category; these codes and their descriptions were originally given in table 5 and are restated in table 9. The third character is a blank space which will hereby be symbolized by "b." The fourth character is a number which indicates the type of roughage (table 10). For example, the name, MCB3, indicates the thousands of metric tons of instate alfalfa ("3") that are consumed by milk cows ("MC").

"X" type names: The first two characters identify the livestock category; these codes and their descriptions were originally given in table 5 and are restated in table 9. The third character is a number which indicates the type of roughage (table 10). The fourth character is the letter "X." For example, the name, MC3X, indicates the

Table 7. Names of production rows

Mnemonic code	Description of row
R8	This row restricts consumption of instate other hay to be less than or equal to the total amount of this roughage that is available.
R11	This row restricts consumption of instate alfalfa to be less than or equal to the total amount of this roughage that is available.
R14	This row restricts consumption of instate corn silage to be less than or equal to the total amount of this roughage that is available.
R15	This row restricts consumption of instate sorghum silage to be less than or equal to the total amount of this roughage that is available.

Note: Roughage availability is derived from SRS State production figures that have been deflated to account for waste and shrinkage.

Table 8. Names of accounting rows

Mnemonic code	Description of row
R9	This row is used to compute IHC. IHC = the total quantity of in-state other hay that is consumed by livestock in this State.
R10	This row is used to compute OHC. OHC = the total quantity of out-of-State other hay that is consumed by livestock in this State.
R12	This row is used to compute IAC. IAC = the total quantity of in-state alfalfa that is consumed by livestock in this State.
R13	This row is used to compute OAC. OAC = the total quantity of out-of-State alfalfa that is consumed by livestock in this State.
R16	This row is used to compute PAC. PAC = the total quantity of roughages other than alfalfa, other hay, corn silage, and sorghum silage that are consumed by livestock in this State. This row is elsewhere referred to as the pasture counter.
R17	This row is used to compute CSC. CSC = the total quantity of corn silage that is consumed by livestock in this State.
R18	This row is used to compute SSC. SSC = the total quantity of sorghum silage that is consumed by livestock in this State.

Table 9. Livestock codes for consumption columns

Mnemonic code	Livestock category
MC	Milk cows
OD	Other dairy
CF	Cattle on feed
OB	Other beef
SF	Sheep on feed
SS	Stock sheep
HO	Hogs*
HM	Horses and mules

* The hog category will not be used in the State goal programming runs. It is assumed that in the future, all hogs will obtain all of their roughage requirements from pasture.

Table 10. Roughage codes for consumption columns

Mnemonic code	:	Roughage category
1	:	Instate other hay
2	:	Out-of-State other hay
3	:	Instate alfalfa
4	:	Out-of-State alfalfa
5	:	Corn silage
6	:	Sorghum silage
7	:	Pasture and anything not accounted for by items "1" through "6" above.

thousands of metric tons of instate alfalfa ("3") that are consumed by milk cows ("MC") in excess of the amount required to meet the national average.

Problem Formulation

Tables 11-18 contain the main body of the constraint equations needed to run the model for the State of Wisconsin. Table 19 contains the coefficients and parameters for the accounting rows.

Table 20 contains a schematic representation of the goal programming rows for Wisconsin. The diagonal of "F" symbols in this figure represents the left-hand-side coefficients which are derived from the top half (that is, the consumption rows) (tables 11-18). The rows containing "1" and "-1" symbols on the bottom of this figure are derived from the resource availability and accounting rows which appear on the bottom half of tables 11-19. The goal summary and the relative importance of each goal for the State livestock ration problems must be tailored to fit the State of interest (table 21). For example, since no sorghum production was reported for Wisconsin, sorghum consumption was left out of this run.

Table 11. Coefficients and parameters for milk cows

Row name	MC 1	MC1X	MC 2	MC 3	MC 3X	MC 4	MC 5	MC 6*	MC 7	Type of row	Right hand side	Description of row
RMC 1	.4	.4	.4	.6	.6	.6	.15	.18	1.0	E	6019.0	Total feed required**
RMC 2	.4		.4	.6		.6				B	1952.6	National hay goal
RMC 4			.4							E	0.0	Out-of-State hay
RMC 5				.6						L	99999999.0	Instate alfalfa goal
RMC 6						.6				E	0.0	Out-of-State alfalfa
RMC 7						.15	.18			B	1570.7	National silage goal
RMC 8		.4			.6					L	781.0	Upper bound for all hay
RMC 9					.6					L	99999999.0	Upper bound alfalfa
R8	1.0	1.0								L	1504.35	Total instate hay
R9	1.0	1.0								E	0.0	Instate hay counter
RL0			1.0							E	0.0	Out-of-State hay counter
RL1				1.0	1.0					L	5735.73	Total instate alfalfa
RL2				1.0	1.0					E	0.0	Instate alfalfa counter
RL3						1.0				E	0.0	Out-of-State alfalfa
RL4							1.0			E	6563.10	Total corn available
RL5								1.0		E	0.0	Total sorghum available*
RL6									1.0	E	0.0	Pasture counter
RL7							1.0			E	0.0	Corn silage counter
RL8								1.0		E	0.0	Sorghum silage counter

* Sorghum was not utilized in the Wisconsin run because no production was reported by SRS.

** This right-hand-side value indicates the total feed units required from roughages.

Table 12. Coefficients and parameters for other dairy livestock

Row name	OD 1	ODIX	OD 2	OD 3	OD3X	OD 4	OD 5	OD 6*	OD 7	Type of row	Right hand side	Description of row
ROD 1	.4	.4	.4	.6	.6	.6	.15	.18	1.0	E	1573.0	Total feed required**
ROD 2	.4		.4	.6		.6				B	485.9	National hay goal
ROD 4			.4							E	0.0	Out-of-State hay
ROD 5				.6						L	99999999.0	Instate alfalfa goal
ROD 6					.6					E	0.0	Out-of-State alfalfa
ROD 7							.15	.18		B	91.3	National silage goal
ROD 8		.4			.6					L	243.0	Upper bound for all hay
ROD 9					.6					L	99999999.0	Upper bound alfalfa
R8	1.0	1.0								L	1504.35	Total instate hay
R9	1.0	1.0								E	0.0	Instate hay counter
R10			1.0							E	0.0	Out-of-State hay counter
R11				1.0	1.0					L	5735.73	Total instate alfalfa
R12				1.0	1.0					E	0.0	Instate alfalfa counter
R13						1.0				E	0.0	Out-of-State alfalfa Counter
R14							1.0			E	6563.10	Total corn available
R15								1.0		E	0.0	Total sorghum available*
R16									1.0	E	0.0	Pasture counter
R17							1.0			E	0.0	Corn silage counter
R18								1.0		E	0.0	Sorghum silage counter

*Sorghum was not utilized in the Wisconsin run because no production was reported by SRS.

**This right-hand-side value equals the total feed units required from roughages.

Table 13. Coefficients and parameters for cattle on feed

Row name	Coefficients associated with each variable							Type of row	Right hand side	Description of row
	CF 1	CF 2	CF 5	CF 6*	CF 7	CF 8	CF 9			
RCF 1	.41	.41	.18	.25	1.0			E	26.0	Total feed required**
RCF 2	.41	.41						B	13.54	National hay goal
RCF 4		.41						E	0.0	Out-of-State hay
RCF 7			.18	.25				B	1.3	National silage goal
RCF 8		.41						L	6.78	Upper bound for all hay
RCF 9	1.0	1.0						L	1504.35	Total instate hay
RCF 10			1.0					E	0.0	Instate hay counter
RCF 14								E	0.0	Out-of-State hay counter
RCF 15			1.0	1.0				E	6563.10	Total corn available
RCF 16					1.0			E	0.0	Total sorghum available*
RCF 17			1.0					E	0.0	Pasture counter
RCF 18				1.0				E	0.0	Corn silage counter
RCF 19								E	0.0	Sorghum silage counter

* Sorghum was not utilized in the Wisconsin run because no production was reported by SRS.

** This right-hand-side value equals total feed units required from roughages.

Table 14. Coefficients and parameters for other beef livestock

Row name	Coefficients associated with each variable										Type of row	Right hand side	Description of row
	OB 1	OBLX	OB 2	OB 3	OB3X	OB 4	OB 5	OB 6*	OB 7				
ROB 1	.41	.41	.41	.6	.6	.6	.18	.20	1.0	E		3038.0	Total feed required**
ROB 2	.41		.41	.6		.6				B		335.8	National hay goal
ROB 4			.41							E		0.0	Out-of-State hay
ROB 5				.6						L		99999999.0	Instate alfalfa goal
ROB 6						.6				E		0.0	Out-of-State alfalfa
ROB 7							.18	.20		B		71.8	National silage Goal
ROB 8			.41		.6					L		587.65	Upper bound all Hay
ROB 9					.6					L		99999999.0	Upper bound alfalfa
R 8	1.0	1.0								L		1504.35	Total Instate hay
R 9	1.0	1.0								E		0.0	Instate hay counter
RL0			1.0							E		0.0	Out-of-State hay counter
RL1				1.0	1.0					L		5735.73	Total instate alfalfa
RL2				1.0	1.0					E		0.0	Instate alfalfa counter
RL3						1.0				E		0.0	Out-of-State alfalfa counter
RL4							1.0			E		6563.10	Total corn available
RL5								1.0		E		0.0	Total sorghum available
RL6									1.0	E		0.0	Pasture counter
RL7							1.0			E		0.0	Corn silage counter
RL8								1.0		E		0.0	Sorghum silage counter

*Sorghum was not utilized in the Wisconsin run because no production was reported by SRS.

**This right-hand-side value equals the total feed units required from roughages.

Table 15. Coefficients and parameters for sheep on feed

Row name	Coefficients associated with each variable						Type of row	Right hand side	Description of row
	SF 1	SF 2	SF 3	SF 4	SF 7				
RSF 1	.42	.42	.6	.6	1.0		E	.83	Total feed required**
RSF 2	.42	.42	.6	.6			B	.04	National hay goal
RSF 4		.42					E	0.0	Out-Of-State hay
RSF 5			.6				L	99999999.0	Instate alfalfa goal
RSF 6				.6			E	0.0	Out-Of-State alfalfa
R8	1.0						L	1504.35	Total instate hay
R9	1.0						E	0.0	Instate hay counter
R10		1.0					E	0.0	Out-Of-State hay counter
R11			1.0				L	5735.73	Total instate alfalfa
R12			1.0				E	0.0	Instate alfalfa counter
R13				1.0			E	0.0	Out-Of-State alfalfa counter
R16					1.0		E	0.0	Pasture counter

**This right-hand-side value equals the total feed units required from roughages.

Table 16. Coefficients and parameters for stock sheep

Row Name	Coefficients associated with each variable							Type of row	Right hand side	Description of row
	SS 1	SSLX	SS 2	SS 3	SS3X	SS 4	SS 7			
RSS 1	.42	.41	.42	.6	.6	.6	1.0	E	77.17	Total feed required **
RSS 2	.42		.42	.6		.6		B	3.27	National hay goal
RSS 4			.42					E	0.0	Out-of-State hay
RSS 5				.6				L	99999999.0	Instate alfalfa goal
RSS 6					.6			E	0.0	Out-of-State alfalfa
RSS 8		.42			.6			L	2.45	Upper bond for all hay
RSS 9					.6			L	99999999.0	Upper bond for alfalfa
R8	1.0	1.0						L	1504.35	Total instate hay
R9	1.0	1.0						E	0.0	Instate hay counter
R10			1.0					E	0.0	Out-of-State hay counter
R11				1.0	1.0			L	5735.73	Total instate alfalfa
R12				1.0	1.0			E	0.0	Instate alfalfa counter
R13						1.0		E	0.0	Out-of-State alfalfa counter
R16							1.0	E	0.0	Pasture counter

* Stock sheep were not utilized in the Wisconsin run because no production was reported by SRS.

** This right-hand-side equals the total feed units required from roughages.

Table 17. Coefficients and parameters for hogs*

Row name	Coefficients associated with each variable		Type of row	Right hand side	Description of row
	HO 7				
RHO 1	1.0		E	284.0	Total feed required **
RL6	1.0		E	0.0	Pasture counter

* Since the output of these analyses is going to be used as input data for long range projections, hogs have been left out of the goal programming framework. The rationale for doing this is the assumption that in the future, all roughage requirements for hogs will come from pasture.

** This right-hand-side value equals the total feed units required from roughages.

Table 18. Coefficients and parameters for horses and mules

Row name	Coefficients associated with each variable				Type of row	Right hand side	Description of row
	HM 1	HMX	HM 2	HM 7			
RHM 1	.4	.4	.4	1.0	E	68.0	Total feed required**
RHM 2	.4		.4		B	21.6	National hay goal
RHM 4			.4		E	0.0	Out-of-State hay
RHM 8		.4			L	17.3	Upper bound for all hay
R8	1.0				L	1504.35	Total instate hay
R9	1.0				E	0.0	Instate hay counter
RL0		1.0			E	0.0	Out-of-State hay counter
RL6				1.0	E	0.0	Pasture counter

**This right-hand-side value equals the total feed units required from roughages.

Table 19. Coefficients and parameters for the accounting rows

Row name	Coefficients associated with each variable					Type of row	Right hand side	Description of row
	IHC	OHC	IAC	OAC	PAC	CSC		
R9	-1.0						0.0	Instate hay counter
R10		-1.0					0.0	Out-of-State hay counter
R12			-1.0				0.0	Instate alfalfa counter
R13				-1.0			0.0	Out-of-State alfalfa counter
R16					-1.0		0.0	Pasture counter
R17					-1.0		0.0	Corn silage counter

Table 20. Schematic diagram of the Wisconsin goal programming rows.

Page 1

MMMMMMMM	00000000	CCCCC	000000000	SSSSS	SSSSSSS	HHHH	I	O	I	O	P	C	Type
CCCCCCCC	DDDDDDDD	FFFFF	BBBBBBBBB	FFFFF	SSSSSSS	MMMM	H	H	A	A	A	S	of
1 3	1 3	1	1 3		1 3	1	C	C	C	C	C	C	row
1X23X457	1X23X457	1X257	1X23X4567	12347	1X23X47	1X27							
RMC 1	FFFFFFF1												E
RMC 2	F FF F												B
RMC 4	F												E
RMC 5	F												L
RMC 6	F												E
RMC 7	F												B
RMC 8	F F												L
RMC 9	F												L
ROD 1	FFFFFFF1												E
ROD 2	F FF F												B
ROD 4	F												E
ROD 5	F												L
ROD 6	F												E
ROD 7	F												B
ROD 8	F F												L
ROD 9	F												L
RCF 1		FFFFF1											E
RCF 2		F F											B
RCF 4		F											E
RCF 7		F											B
RCF 8		F											L
ROB 1			FFFFFFF1										E
ROB 2			F FF F										B
ROB 4			F										E
ROB 5			F										L
ROB 6			F										E
ROB 7			FF										B
ROB 8			F F F										L
ROB 9			F										L
RSF 1				FFFFF1									E
RSF 2				FFFF									B
RSF 4				F									E
RSF 5				F									L
RSF 6				F									E
RSS 1					FFFFFFF1								E
RSS 2					F FF F								B
RSS 4					F								E
RSS 5					F								L
RSS 6					F								E
RSS 8					F F								L
RSS 9					F								L

Continued—

Table 20. Schematic diagram of the Wisconsin goal programming rows--Continued

Page 2

MMMMMMM	00000000	CCCCC	000000000	SSSSS	SSSSSSS	HHHH	I	O	I	O	P	C	Type
CCCCCCCC	DDDDDDDD	FFFFF	BBBBBBBBB	FFFFF	SSSSSSS	MMM	H	H	A	A	A	S	of
1 3	1 3	1	1 3		1 3	1	C	C	C	C	C	C	ROW
1X23X457	1X23X457	1X257	1X23X4567	12347	1X23X47	1X27							

RHM 1							FFF1						E
RHM 2							F F						B
RHM 4							F						E
RHM 8							F						L
R 8	11		11		11	11	1	11	11				E
R 9	11		11		11	11	1	11	11	-1			L
R 10		1		1		1	1	1	1		-1		E
R 11		11		11		11	1	11	11				E
R 12		11		11		11	1	11	11		-1		L
R 13		1		1		1	1	1	1			-1	E
R 14		1		1	1								E
R 15		1				1							E
R 16		1			1	1	1	1	1			-1	E
R 17		1		11	1	1						-1	E

Table 21. Goal constraints for State feed models

Rank order	Feed class	Feed subclass	Type of livestock	RHS	d^-	d^+
1	Silage	Corn; sorghum	Milk cows	NA	X	X
2	Silage	Corn; sorghum	Other dairy	NA	X	X
3	Silage	Corn; sorghum	Cattle on feed	NA	X	X
4	Silage	Corn; sorghum	Other beef	NA	X	X
5	Hay	Other hay	Horses; mules	NA	X	
6	Hay	Other hay	Cattle on feed	NA	X	
7	Hay	Alfalfa; other hay	Milk cows	NA	X	
8	Hay	Alfalfa	Milk cows	∞	X	
9	Hay	Alfalfa; other hay	Other dairy	NA	X	
10	Hay	Alfalfa	Other dairy	∞	X	
11	Hay	Alfalfa; other hay	Other beef	NA	X	
12	Hay	Alfalfa	Other beef	∞	X	
13	Hay	Alfalfa; other hay	Stock sheep	NA	X	
14	Hay	Alfalfa	Stock sheep	∞	X	
15	Hay	Alfalfa; other hay	Sheep on feed	NA	X	
16	Hay	Alfalfa	Sheep on feed	∞	X	
17	Hay	Other hay	Horses; mules	UB	X	X
18	Hay	Other hay	Cattle on feed	UB	X	X
19	Hay	Alfalfa; other hay	Milk cows	UB	X	X
20	Hay	Alfalfa	Milk cows	∞	X	X
21	Hay	Alfalfa; other hay	Other dairy	UB	X	X
22	Hay	Alfalfa	Other dairy	∞	X	
23	Hay	Alfalfa; other hay	Other beef	UB	X	X
24	Hay	Alfalfa	Other beef	∞	X	X
25	Hay	Alfalfa; other hay	Stock sheep	UB	X	X
26	Hay	Alfalfa	Stock sheep	∞	X	

Note: NA = National average ∞ = Infinity UB = Upper Bound on increment consumed above national average.

Procedures for Running the Model

The user procedures for the ESCS Goal Programming Algorithm are almost identical to those specified by Bottoms and Pope (1975). The reader will recognize the data derived from tables 11-21. This is data for the Wisconsin run. Users interested in options other than the standard run should see Bottoms and Pope (1975), or Bartlett, Bottoms, and Pope (1976) for more information. Other options include:

1. altering the right-hand-side card including
 - (a) the number and order of priorities,
 - (b) the type of equality signs, and
 - (c) the differential weights on either or both priority factors;
2. parametric runs including
 - (a) an A matrix coefficient, and
 - (b) a B vector or RHS coefficient;
3. advanced basis starts; and
4. multiple runs.

Figure 1 illustrates the card sequence for standard runs. Since this is the input deck, these cards are placed between the separator card which marks the end of the source or object deck and the separator card which marks the end of the input data deck. The items in parentheses are problem specific, varying from one problem to the next.

All cards without parentheses are present in every standard run. They begin in column 1.

The remainder of this section follows the outline suggested in figure 1, from "i" to "xii." Each type of card will be described.

- (i) STRT - The first card of each problem to be run. This card must always be followed by the parameter card.
Col. 1-4 - STRT
- (ii) (Parameter card) - The major purpose of this card is to reserve sufficient computer storage memory to run the problem. This card outlines the number of rows, (constraints + goal rows), the number of decision variables (columns), and the number of goal priority levels.
Col. 1-5 - Number of rows in the problem
6-10 - Number of decision variables (cols.)
11-15 - Number of goal priority levels
16-20 - Nonzero entry if intermediate iteration results are desired
21-25 - Nonzero entry if input data echo is desired.

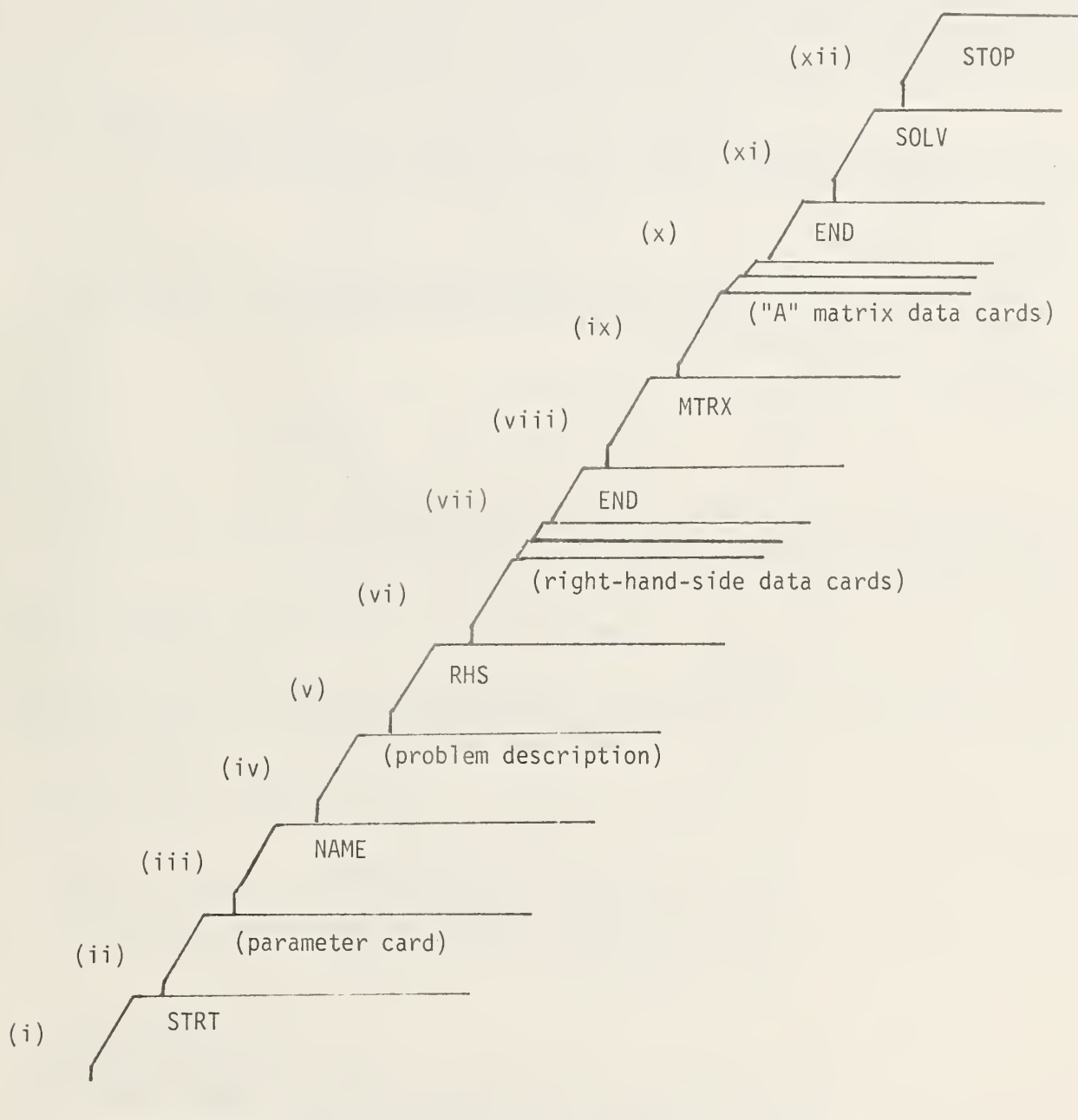


Figure 1. Data deck setup for standard run.

(iii) NAME: Control card indicating the problem description is the next card to be read. This card appears anywhere before a SOLV card and is to be followed by a card containing an alphanumeric description of the problem in columns 1-40. This card set is optional. Cols. 73-80 have the date.

Col. 1-4 - Name

73-80 - Optional date.

(iv) (Problem description) A short description of the problem being run.

Cols. 1-40 - Punch any desired descriptive information

(v) RHS: Signals the beginning of the right-hand-side data card entries. This card must appear before the MTRX card and is always followed by one data card for each row (both goal and nongoal) of the matrix.

Cols. 1-3 - RHS

(vi) (Right-hand-side data cards) Each row, whether nongoal or goal constraint, must be represented in this section by a separate data card. Data is entered in the following manner.

Cols. 1-8 - Leave blank

9-12 Row number or symbol (alphanumeric information)

13-24 Value of the right-hand-side of the row

25 Type description of row relationship to the right-hand-side value.

E - if equal - neither deviational variable is allowed or considered.

G - if greater than or equal to - only the positive deviational variable is considered or allowed.

L - if less than or equal to - only the negative deviational variable is considered or allowed.

B - if any value above zero is acceptable. The "B" designation is used only in relation to goal constraints, while "E, G, or L" can be associated with a goal level or resource constraints. A "B" allows both the positive and negative deviational variable to be considered.

26-30 Leave this field blank if row has no association with a goal level (minimize a deviational variable). If associated with a goal level, the priority level at which deviations from the goal are minimized must be punched in this field. This is an integer number and must be right justified.

This card field is related only to:

-- minimizing the negative deviation (underachievement) if Col. 25 is a "B"

--minimizing any negative deviation (underachievement) of the goal if Col. 25 is an "L." This value is to be right justified without a decimal point. If the constraint row had a "G" in Col. 25, this field must be left blank.

31-42 The differential weight associated with the negative deviation-
al variable or the underachievement as shown in Cols. 25-30.
If Cols. 26-30 are blank, this field will also be blank. A
decimal point is required. Normally a (1.0) must be punched in
this field if Cols. 26-30 have a priority value. These values
can be used to weight the minimization of a deviational vari-
able within a priority level. This weighting does not affect
other priority goals in any way.

43-47 Used only when Col. 25 is a "B" or a "G" and overachievement is
to be minimized. These columns contain the priority level at
which the minimization is to occur. This value must be right
justified and punched without a decimal point. This field will
always be blank if Col. 25 is an "L," or if Col. 25 is a "B"
or "G," and a priority for the minimization of the positive de-
viational variable was not assigned.

48-59 Differential weight associated with priority level outlined in
Cols. 43-47. If Cols. 43-47 are blank, this field must also be
blank.

60 Leave blank

61-80 a 20-character alphanumeric row description. This is optional,
but if included is used as a label to aid in interpretation of
output.

Cols. 1-80 must be repeated once for each row of matrix formulation.

(vii) END: This card signifies the end of the right-hand-side data cards,
and must appear before the MTRX card.

Cols. 1-3 - END

(viii) MTRX: This card must appear after the END card signifying the end of
the right-hand-side data cards. This card indicates beginning
of the data cards containing the technological coefficient
entries (production and use coefficients). The matrix data
cards must follow this card and are entered in the format de-
scribed in (X). This card must appear before the SOLV card in
all cases.

Cols. 1-4 - MTRX

(ix) (A matrix data cards) A separate card is entered for each non-
zero coefficient in the model by the following format:

Cols. 1-4 - leave blank

5-8 column number or symbol (alphanumeric field)

9-12 row number or symbol (alphanumeric field). This description
must be the same as use for the same row in the right-hand-side
data cards.

13-24 value of the technological entry with a decimal punched

61-80 description of the variable in that column for table purposes (optional). When included, the description need only be punched once at the beginning of each new column.

All entries in one column must be punched before a new column is started. Be sure the row description, Cols. 9-12 (x), matches the row description, Cols. 9-12 of (vii).

(x) END: Card signifying the end of the matrix coefficient data cards.

Cols. 1-3 - END

(xi) SOLV: This card causes the generation of a complete goal programming matrix, adds the appropriate deviational variables as dictated by the type of equality [Col. 25, (vii)], solves the problem, and establishes the desired output format.

Cols. 1-4 - SOLV

5-8 - Leave blank--all result printout is received except for the data input and intermediate iteration results, or

SHRT - if only variables in the final optimal solution are desired, or

MEDM - if variables in solution plus goal and constraint analysis are desired.

(xii) STOP: Indicates the end of all control cards, and once encountered stops the program execution and data processing.

Cols. 1-4 - STOP

Empirical Results for the State of Wisconsin

Table 22 contains the results of running the goal programming model for our sample problem--the livestock ration problem for the State of Wisconsin. The next section contains a description of the data that are required for applying this technique to other States. The final section presents the livestock rations that were developed by applying this estimation procedure to each of the 48 contiguous States.

INPUT DATA REQUIREMENTS BY STATE

Previous discussion formalizes a conceptual basis for deriving statistics on the utilization of roughages. The statistics produced by such an approach, however, are only as good as the data that went into the model.

The approach adopted in this study is to use existing published data wherever possible, and judgment as to what constitutes the best available nonpublished data where no data exists in the literature. If the test of the methodology indicated that the goal programming approach may be used effectively in deriving statistics on the consumption of roughages, this fact may serve as a stimulus for improving the data base. By providing what is essentially a user's guide to the goal programming model, the reader will be able to run the model with alternative sets of data assumptions.

Table 22. 1971 Roughage requirements for Wisconsin

Livestock type	Instate hay	Extra	Total hay	Total alfalfa	Silage		Pasture	Total
					Corn	Sorghum		
Milk cows.....								
Feed units in 1000's	.00	328.58	328.58	2537.01	2537.01	.00	2890.89	6019.00
Wt in 1000 met. tons	.00	821.45	821.45	4228.35	1750.16	.00	2890.89	9690.84
Fu/head in kilograms	.00	3422.70	3422.70	26427.19	2734.62	.00	30113.41	62697.92
Other dairy.....								
Feed units in 1000's	.00	.00	.00	626.21	.00	.00	946.79	1573.00
Wt in 1000 met. tons	.00	.00	.00	1043.68	.00	.00	946.79	1990.47
Fu/head in kilograms	.00	.00	.00	19569.06	.00	.00	29587.19	49156.25
Cattle on feed.....								
Feed units in 1000's	13.55	6.77		.00	.00	.00	5.68	26.00
Wt in 1000met. tons	33.05	16.51		.00	.00	.00	5.68	55.24
Fu/head in kilograms	169.37	84.62		.00	.00	.00	71.00	325.00
Other beef.....								
Feed units in 1000's	222.14	.00	.00	278.22	.00	.00	2537.64	3038.00
Wt in 1000 met. tons	541.81	.00	.00	463.70	.00	.00	2537.64	3543.15
Fu/head in kilograms	158.56	.00	.00	198.59	.00	.00	1811.31	2168.45
Sheep on feed.....								
Feed units in 1000's	.54	.00	.00	.00	.00	.00	.06	.60
Wt in 1000 met. tons	1.29	.00	.00	.00	.00	.00	.06	1.35
Fu/head in kilograms	8.71	.00	.00	.00	.00	.00	.97	9.68
Stock sheep.....								
Feed units in 1000's	2.34	.00	.00	.00	.00	.00	53.06	55.40
Wt in 1000 met. tons	5.57	.00	.00	.00	.00	.00	53.06	58.63
Fu/head in kilograms	5.44	.00	.00	.00	.00	.00	123.40	128.84
Horses and mules.....								
Feed units in 1000's	18.82	15.05		.00	.00	.00	34.13	68.00
Wt in 1000 met. tons	47.05	37.62		.00	.00	.00	34.13	118.81
Fu/head in kilograms	427.73	342.05		.00	.00	.00	775.68	1545.45
Total feed units.....	257.39	350.40		3441.44	262.52	.00	6468.25	10780.00
Total weight.....	628.77	875.58		5735.73	1750.16	.00	6468.25	15458.49

State Codes

In reporting agricultural data, it is common to assign a unique numerical code to each State. A variety of codes have been utilized in previous studies by different sources of agricultural data. In order to overcome some of the data processing problems that might have been created by this situation, State data in the present study have been reorganized (table 23).

Livestock Numbers

Livestock numbers used in this study are data reported by the Statistical Reporting Service (SRS). (See references 1-5.) Total head of livestock reported for 1971, 1972, and 1973 are shown in tables 24 through 26.

Feed Unit Values for Roughages

A "feed unit" as defined in this study is the quantity of any feed equivalent to the feeding value of a pound of corn containing 78.6 percent total digestible nutrients. The rationale for using this common unit of measure is derived from a number of earlier studies (references 6-11). The relative value of each type of roughage compared with corn when fed to different types of livestock is given by the left-hand-side coefficients in the consumption rows (tables 11-18). These are based on the minimum feed requirements published by the National Academy of Sciences, Council of Animal Nutrition (11), ^{3/} and adjustments to this data (10).

Total Roughage Requirements

The total number of feed units consumed as roughages by each kind of livestock in each State are taken from the draft of a publication by Allen and Otto (12). Essentially, these are the same figures reported by Allen and Devers (9). Allen and Otto now define consumption in thousand metric tons of feed units where Allen and Devers had reported a roughage consuming animal unit as 6,800 pounds of feed units.

The total feed required in the example problem illustrated earlier was given as the right-hand-side value of the first row in tables 11-18.

In this study, the total roughage requirements by State, by type of livestock, by year, appear as the right-hand-side elements in the tables in the next Chapter.

Availability of Roughages

The availability of harvested roughages within each State was confined to equal each State's production as reported in the U.S. Department of Agriculture's Agricultural Statistics publication. Production figures provided by the Statistical Reporting Service (SRS) were used to define 1970 production (13) and output for the following years as well (14) (tables 27-28).

The reader should note the following items when interpreting this data and results:

1. The SRS data presented here is given in short tons, whereas the consumption figures are stated in metric tons. A short ton = 2000 pounds or 907.2 kilograms. A metric ton = 2204.6 pounds or 1000 kilograms.
2. After converting from short tons to metric tons, the alfalfa and other hay

^{3/} Underscored numbers in parentheses refer to literature cited in the references section at the end of this report.

Table 23. STATE FILE

STATE NO.	STATE NAME	STATE NO.	STATE NAME
1	ALABAMA	13	IOWA
2	ARIZONA	14	KANSAS
3	ARKANSAS	15	KENTUCKY
4	CALIFORNIA	16	LOUISIANA
5	COLORADO	17	MAINE
6	CONNECTICUT	18	MARYLAND
7	DELAWARE	19	MASSACHUSETTS
8	FLORIDA	20	MICHIGAN
9	GEORGIA	21	MINNESOTA
10	IDAHO	22	MISSISSIPPI
11	ILLINOIS	23	MISSOURI
12	INDIANA	24	MONTANA
STATE NO.	STATE NAME	STATE NO.	STATE NAME
25	NEBRASKA	37	RHODE ISLAND
26	NEVADA	38	SOUTH CAROLINA
27	NEW HAMPSHIRE	39	SOUTH DAKOTA
28	NEW JERSEY	40	TENNESSEE
29	NEW MEXICO	41	TEXAS
30	NEW YORK	42	UTAH
31	NORTH CAROLINA	43	VERMONT
32	NORTH DAKOTA	44	VIRGINIA
33	OHIO	45	WASHINGTON
34	OKLAHOMA	46	WEST VIRGINIA
35	OREGON	47	WISCONSIN
36	PENNSYLVANIA	48	WYOMING
		49	UNITED STATES

production is reduced by an (approximately) additional 25% to account for waste and shrinkage.

When the above computations are performed, the SRS production figures for alfalfa, other hay, corn silage, and sorghum silage correspond to the right-hand-side elements in the resource availability constraints at the bottom of tables 11-18.

Ranking of Goals

In this study, the rank order of the goals is the same for each State as it is in the Wisconsin example (table 21). Given the short "time fuse" that was available for conducting this research, a unique set of ranks for each State was not developed. This possibility should be explored in future studies. The source of the order of ranks used in an approach such as this should be based on the best available professional judgment. In this case, George Allen was consulted.

Summary of Input Data Requirements

A description of the input data that formed the basis of the goal programming analysis follows. For each State, data are required on livestock numbers, feed unit values for roughages, total roughage requirements, availability of roughages, and the ranking of goals.

RATIONS FOR THE 48 CONTIGUOUS STATES

The results from the goal programming model presented here in tabular form should be viewed as unofficial estimates of livestock roughage consumption, by type of roughage, by State, 1971-73.



1971 ROUGHAGE REQUIREMENTS FOR UNITED STATES

LIVESTOCK TYPE	HAY		ALFALFA		CORN	SILAGE		PASTURE	TOTAL
	IN STATE	OUT STATE	IN STATE	OUT STATE		SORGHUM			
MILK COWS									
FEED UNITS IN 1000'S	2382.50	.00	13765.04	.00	2501.40	158.51	14700.56	33528.00	
WT IN 1000 MET. TONS	5956.24	.00	22975.07	.00	16675.99	880.60	14700.56	61188.45	
AVE. FU/HEAD IN KG.	209.17	.00	1210.28	.00	219.61	13.92	1293.65	2943.63	
OTHER DAIRY									
FEED UNITS IN 1000'S	1188.19	.00	2409.43	.00	16.16	17.96	4941.26	8573.01	
WT IN 1000 MET. TONS	2976.48	.00	4015.72	.00	107.73	99.79	4941.26	12134.97	
AVE. FU/HEAD IN KG.	322.44	.00	653.85	.00	4.39	4.87	1340.91	2326.46	
CATTLE CR. FEED									
FEED UNITS IN 1000'S	2764.75	.00	.00	.00	41.59	81.77	3157.89	6046.00	
WT IN 1000 MET. TONS	6743.30	.00	.00	.00	231.05	327.08	3157.89	10459.31	
AVE. FU/HEAD IN KG.	251.20	.00	.00	.00	3.78	7.43	286.92	549.34	
OTHER BEEF									
FEED UNITS IN 1000'S	6535.69	.00	14201.48	.00	.00	.00	159240.83	180058.00	
WT IN 1000 MET. TONS	15940.70	.00	23802.47	.00	.00	.00	159240.83	198994.00	
AVE. FU/HEAD IN KG.	74.44	.00	162.66	.00	.00	.00	1813.70	2050.00	
SHEEP CR. FEED									
FEED UNITS IN 1000'S	18.88	.00	29.69	.00	.00	.00	56.12	104.69	
WT IN 1000 MET. TONS	44.95	.00	49.48	.00	.00	.00	56.12	150.56	
AVE. FU/HEAD IN KG.	7.47	.00	11.74	.00	.00	.00	22.19	41.40	
STOCK SHEEP									
FEED UNITS IN 1000'S	43.23	.00	140.14	.00	.00	.00	9494.94	9678.31	
WT IN 1000 MET. TONS	102.92	.00	233.57	.00	.00	.00	9494.94	9831.43	
AVE. FU/HEAD IN KG.	2.62	.00	9.49	.00	.00	.00	575.00	586.10	
HORSES AND MULES									
FEED UNITS IN 1000'S	1092.23	.00	.00	.00	.00	.00	2170.77	3263.00	
WT IN 1000 MET. TONS	2736.58	.00	.00	.00	.00	.00	2170.77	4901.35	
AVE. FU/HEAD IN KG.	386.36	.00	.00	.00	.00	.00	767.87	1154.23	
TOTAL FEED UNITS ...	14025.47	.00	30645.79	.00	2559.15	258.24	193762.36	241251.00	
TOTAL WEIGHT	34489.17	.00	51076.31	.00	17014.77	1307.46	193762.36	297650.00	

1971 ROUGHAGE REQUIREMENTS FOR ALABAMA

LIVESTOCK TYPE	HAY		ALFALFA		TOT ALF	SILAGE		SORGHUM	PASTURE	TOTAL
	IN STATE	EXTRA	TOT	IN STATE	EXTRA	TOT	IN STATE	EXTRA		
MILK COWS										
FEED UNITS IN 1000'S	94.13	.00	94.13	4.08	.00	4.08	10.10	6.20	118.49	233.00
WT IN 1000 MET. TONS	235.33	.00	235.33	6.80	.00	6.80	67.31	34.47	118.49	462.39
FU/HEAD IN KILOGRAMS	784.42	.00	784.42	34.00	.00	34.00	84.14	51.70	987.41	1941.67
OTHER DAIRY										
FEED UNITS IN 1000'S	24.68	.00	24.68	.00	.00	.00	.00	.00	37.32	62.00
WT IN 1000 MET. TONS	61.70	.00	61.70	.00	.00	.00	.00	.00	37.32	99.02
FU/HEAD IN KILOGRAMS	725.88	.00	725.88	.00	.00	.00	.00	.00	1097.65	1823.53
CATTLE ON FEED										
FEED UNITS IN 1000'S	9.38	.00	9.38	.00	.00	.00	.00	.00	8.62	18.00
WT IN 1000 MET. TONS	22.88	.00	22.88	.00	.00	.00	.00	.00	8.62	31.50
FU/HEAD IN KILOGRAMS	268.00	.00	268.00	.00	.00	.00	.00	.00	246.29	514.29
OTHER BEEF										
FEED UNITS IN 1000'S	106.48	.00	106.48	.00	.00	.00	.00	.00	2589.52	2696.00
WT IN 1000 MET. TONS	259.71	.00	259.71	.00	.00	.00	.00	.00	2589.52	2849.23
FU/HEAD IN KILOGRAMS	58.54	.00	58.54	.00	.00	.00	.00	.00	1423.60	1482.13
SHEEP ON FEED										
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.02	.02
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.02	.02
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP										
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	1.98	1.98
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	1.98	1.98
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	330.00	330.00
HORSES AND MULES										
FEED UNITS IN 1000'S	18.54	.00	18.54	.00	.00	.00	.00	.00	48.46	67.00
WT IN 1000 MET. TONS	46.35	.00	46.35	.00	.00	.00	.00	.00	48.46	94.81
FU/HEAD IN KILOGRAMS	191.13	.00	191.13	.00	.00	.00	.00	.00	499.59	690.72
TOTAL FEED UNITS ...	253.21	.00	253.21	4.08	.00	4.08	10.10	6.20	2804.41	3078.00
TOTAL WEIGHT	625.96	.00	625.96	6.80	.00	6.80	67.31	34.47	2804.41	3538.95

1971 ROUGHAGE REQUIREMENTS FOR ARIZONA

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:	CORN	SORGHUM:				
MILK COWS															
FEED UNITS IN 1000'S	.00	.00	.00	.00	64.07	25.63	.00	89.70	8.00	5.88	48.42	152.00			
WT IN 1000 WET. TONS	.00	.00	.00	.00	106.78	42.72	.00	149.50	53.34	32.65	48.42	223.92			
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1281.40	512.60	.00	1794.00	160.02	117.58	968.40	3040.00			
OTHER DAIRY															
FEED UNITS IN 1000'S	.00	.00	.00	.00	12.34	6.17	.00	18.51	.00	.00	12.49	31.00			
WT IN 1000 WET. TONS	.00	.00	.00	.00	20.57	10.28	.00	30.85	.00	.00	12.49	43.34			
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	949.23	474.62	.00	1423.85	.00	.00	960.77	2384.62			
CATTLE ON FEED															
FEED UNITS IN 1000'S	9.23	.00	.00	9.23	.00	.00	.00	.00	.00	.00	415.77	425.00			
WT IN 1000 WET. TONS	22.52	.00	.00	22.52	.00	.00	.00	.00	.00	.00	415.77	438.29			
FU/HEAD IN KILOGRAMS	17.62	.00	.00	17.62	.00	.00	.00	.00	.00	.00	793.45	811.07			
OTHER BEEF															
FEED UNITS IN 1000'S	.00	.00	.00	.00	254.30	128.18	.00	382.48	.00	.00	1161.52	1544.00			
WT IN 1000 WET. TONS	.00	.00	.00	.00	423.83	213.64	.00	637.47	.00	.00	1161.52	1798.99			
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	207.42	104.55	.00	311.98	.00	.00	947.40	1259.38			
SHEEP ON FEED															
FEED UNITS IN 1000'S	.00	.00	.00	.00	2.15	.00	.00	2.15	.00	.00	.23	2.38			
WT IN 1000 WET. TONS	.00	.00	.00	.00	3.58	.00	.00	3.58	.00	.00	.23	3.81			
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	28.29	.00	.00	28.29	.00	.00	3.03	31.32			
STOCK SHEEP															
FEED UNITS IN 1000'S	.00	.00	.00	.00	9.29	.00	.00	9.29	.00	.00	210.33	219.62			
WT IN 1000 WET. TONS	.00	.00	.00	.00	15.48	.00	.00	15.48	.00	.00	210.33	225.81			
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	21.60	.00	.00	21.60	.00	.00	489.14	510.74			
HORSES AND MULES ...															
FEED UNITS IN 1000'S	14.94	.00	.00	14.94	.00	.00	.00	.00	.00	.00	39.06	54.00			
WT IN 1000 WET. TONS	37.35	.00	.00	37.35	.00	.00	.00	.00	.00	.00	39.06	76.41			
FU/HEAD IN KILOGRAMS	281.89	.00	.00	281.89	.00	.00	.00	.00	.00	.00	736.98	1018.87			
TOTAL FEED UNITS ...	24.17	.00	.00	24.17	342.15	159.98	.00	502.13	8.00	5.88	1887.81	2428.00			
TOTAL WEIGHT	59.87	.00	.00	59.87	570.25	266.64	.00	836.89	53.34	32.66	1887.81	2870.57			

1971 ROUGHAGE REQUIREMENTS FOR ARKANSAS

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:	:	
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	87.25	.00	.00	87.25	1.91	7.19	110.66	207.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	145.42	.00	.00	145.42	12.70	39.92	110.66	308.70
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	899.48	.00	.00	899.48	19.64	74.08	1140.82	2134.02
OTHER DAIRY												
FEED UNITS IN 1000'S	10.36	.00	.00	10.36	11.14	.00	.00	11.14	.00	.00	32.50	54.00
WT IN 1000 MET. TONS	25.90	.00	.00	25.90	18.56	.00	.00	18.56	.00	.00	32.50	76.97
FU/HEAD IN KILOGRAMS	383.78	.00	.00	383.78	412.52	.00	.00	412.52	.00	.00	1203.70	2000.00
CATTLE ON FEED												
FEED UNITS IN 1000'S	6.77	.00	.00	6.77	.00	.00	.00	.00	.00	.00	6.23	13.00
WT IN 1000 MET. TONS	16.51	.00	.00	16.51	.00	.00	.00	.00	.00	.00	6.23	22.74
FU/HEAD IN KILOGRAMS	398.24	.00	.00	398.24	.00	.00	.00	.00	.00	.00	366.47	764.71
OTHER BEEF												
FEED UNITS IN 1000'S	278.23	.00	.00	278.23	.00	.00	.00	.00	.00	.00	2943.77	3222.00
WT IN 1000 MET. TONS	678.62	.00	.00	678.62	.00	.00	.00	.00	.00	.00	2943.77	3622.38
FU/HEAD IN KILOGRAMS	165.52	.00	.00	165.52	.00	.00	.00	.00	.00	.00	1751.20	1916.72
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.03
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.03
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.97	2.97
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.97	2.97
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	371.25	371.25
HORSES AND MULES ...												
FEED UNITS IN 1000'S	21.03	.00	.00	21.03	.00	.00	.00	.00	.00	.00	54.97	76.00
WT IN 1000 MET. TONS	52.57	.00	.00	52.57	.00	.00	.00	.00	.00	.00	54.97	107.55
FU/HEAD IN KILOGRAMS	252.87	.00	.00	252.87	.00	.00	.00	.00	.00	.00	687.13	950.00
TOTAL FEED UNITS ...	316.40	.00	.00	316.40	98.39	.00	.00	98.39	1.91	7.19	3151.13	3575.00
TOTAL WEIGHT	773.61	.00	.00	773.61	163.98	.00	.00	163.98	12.70	39.92	3151.13	4141.34

1971 ROUGHAGE REQUIREMENTS FOR CALIFORNIA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			TOTAL	
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:IN STATE	EXTRA	OUT STATE	PASTURE:	SORGHUM:
MILK COWS											
FEED UNITS IN 1000'S	.00	.00	.00	.00	1066.50	336.95	.00	1405.45	54.81	6.47	1068.27
WT IN 1000 MET. TONS	.00	.00	.00	.00	1780.83	561.58	.00	2342.41	365.42	35.92	1068.27
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1409.63	444.52	.00	1854.15	72.31	8.53	1409.33
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	.00	.00	.00	255.98	.00	.00	255.98	.00	.00	387.02
WT IN 1000 MET. TONS	.00	.00	.00	.00	426.63	.00	.00	426.63	.00	.00	387.02
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1057.77	.00	.00	1057.77	.00	.00	1599.26
CATTLE ON FEED											
FEED UNITS IN 1000'S	223.52	.00	.00	223.52	.00	.00	.00	.00	.00	.00	761.48
WT IN 1000 MET. TONS	545.16	.00	.00	545.16	.00	.00	.00	.00	.00	.00	761.48
FU/HEAD IN KILOGRAMS	223.30	.00	.00	223.30	.00	.00	.00	.00	.00	.00	760.72
OTHER BEEF											
FEED UNITS IN 1000'S	.00	.00	.00	.00	945.21	.00	.00	945.21	.00	.00	4793.79
WT IN 1000 MET. TONS	.00	.00	.00	.00	1575.35	.00	.00	1575.35	.00	.00	4793.79
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	256.85	.00	.00	256.85	.00	.00	1302.66
SHEEP ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	5.06	.00	.00	5.06	.00	.00	.53
WT IN 1000 MET. TONS	.00	.00	.00	.00	8.43	.00	.00	8.43	.00	.00	.53
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	44.00	.00	.00	44.00	.00	.00	4.61
STOCK SHEEP											
FEED UNITS IN 1000'S	.00	.00	.00	.00	21.84	.00	.00	21.84	.00	.00	494.57
WT IN 1000 MET. TONS	.00	.00	.00	.00	36.40	.00	.00	36.40	.00	.00	494.57
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	19.01	.00	.00	19.01	.00	.00	430.44
HORSES AND MULES											
FEED UNITS IN 1000'S	29.05	.00	.00	29.05	.00	.00	.00	.00	.00	.00	75.95
WT IN 1000 MET. TONS	72.62	.00	.00	72.62	.00	.00	.00	.00	.00	.00	75.95
FU/HEAD IN KILOGRAMS	377.27	.00	.00	377.27	.00	.00	.00	.00	.00	.00	986.36
TOTAL FEED UNITS ...	252.57	.00	.00	252.57	2296.59	336.95	.00	2633.54	54.81	6.47	7581.61
TOTAL WEIGHT	617.80	.00	.00	617.80	3827.65	561.58	.00	4389.23	365.42	35.92	7581.61

1971 ROUGHAGE REQUIREMENTS FOR COLORADO

LIVESTOCK TYPE	IN STATE	HAY		TOT HAY:IN STATE	ALFALFA		TOT ALF:	SILAGE		PASTURE:	TOTAL
		EXTRA	OUT STATE		EXTRA	OUT STATE		CORN	SORGHUM:		
MILK COWS											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	75.39	.00	72.71	256.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	502.60	.00	72.71	755.14
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	954.30	.00	920.38	3240.51
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	7.55	.00	35.12	71.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	50.33	.00	35.18	132.63
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	279.63	.00	1302.96	2629.63
CATTLE ON FEED											
FEED UNITS IN 1000'S	116.81	.00	.00	116.81	.00	.00	.00	40.97	13.06	55.16	228.00
WT IN 1000 MET. TONS	289.78	.00	.00	289.78	.00	.00	.00	227.62	52.25	55.16	624.80
FU/HEAD IN KILOGRAMS	133.89	.00	.00	133.89	.00	.00	.00	46.14	14.71	62.11	256.76
OTHER BEEF											
FEED UNITS IN 1000'S	155.52	.00	.00	155.52	.00	.00	.00	.00	.00	5405.89	6256.00
WT IN 1000 MET. TONS	379.32	.00	.00	379.32	.00	.00	.00	.00	.00	5405.89	6942.86
FU/HEAD IN KILOGRAMS	47.01	.00	.00	47.01	.00	.00	.00	.00	.00	1634.19	1891.17
SHEEP ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.03	5.03
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.03	5.03
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	10.06	10.06
STOCK SHEEP											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	464.97	464.97
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	464.97	464.97
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	600.74	600.74
HORSES AND MULES ...											
FEED UNITS IN 1000'S	26.29	.00	.00	26.29	.00	.00	.00	.00	.00	68.71	95.00
WT IN 1000 MET. TONS	65.72	.00	.00	65.72	.00	.00	.00	.00	.00	68.71	134.44
FU/HEAD IN KILOGRAMS	386.62	.00	.00	386.62	.00	.00	.00	.00	.00	1010.44	1397.06
TOTAL FEED UNITS ...	300.62	.00	.00	300.62	.00	.00	.00	123.91	13.06	6107.64	7376.00
TOTAL WEIGHT	734.83	.00	.00	734.83	.00	.00	.00	780.55	52.25	6107.64	9059.87

1971 ROUGHAGE REQUIREMENTS FOR CONNECTICUT

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF	SILAGE			TOTAL
	IN STATE	EXTRA	OUT STATE	IN STATE	EXTRA	OUT STATE		CORN	SORGHUM	PASTURE	
MILK COWS											
FEED UNITS IN 1000'S	30.73	.00	.00	26.95	.00	.00	26.95	22.21	.00	75.11	155.00
WT IN 1000 MET. TONS	76.84	.00	.00	44.91	.00	.00	44.91	148.05	.00	75.11	344.91
FU/HEAD IN KILOGRAMS	529.90	.00	.00	464.59	.00	.00	464.59	382.89	.00	1295.04	2672.41
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	40.00	40.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	40.00	40.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1904.76	1904.76
CATTLE ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
OTHER BEEF											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	49.00	49.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	49.00	49.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1484.85	1484.85
SHEEP ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.02
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.02
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.98	1.98
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.98	1.98
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	396.00	396.00
HORSES AND MULES											
FEED UNITS IN 1000'S	1.11	.00	.00	.00	.00	.00	.00	.00	.00	2.89	4.00
WT IN 1000 MET. TONS	2.78	.00	.00	.00	.00	.00	.00	.00	.00	2.89	5.67
FU/HEAD IN KILOGRAMS	277.50	.00	.00	.00	.00	.00	.00	.00	.00	722.50	1000.00
TOTAL FEED UNITS	31.84	.00	.00	26.95	.00	.00	26.95	22.21	.00	169.00	250.00
TOTAL WEIGHT	79.61	.00	.00	44.91	.00	.00	44.91	148.05	.00	169.00	441.57

1971 ROUGHAGE REQUIREMENTS FOR DELAWARE

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:		
MILK COWS												
FEED UNITS IN 1000'S	8.15	.00	.00	3.15	8.17	.00	.00	8.17	2.72	.00	20.96	40.00
WT IN 1000 MET. TONS	20.38	.00	.00	20.38	13.61	.00	.00	13.61	18.14	.00	20.96	73.09
FU/HEAD IN KILOGRAMS	626.92	.00	.00	626.92	628.15	.00	.00	628.15	209.31	.00	1612.54	3076.92
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.00	5.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.00	5.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1666.67	1666.67
CATTLE ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
OTHER BEEF												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	34.00	34.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	34.00	34.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2266.67	2266.67
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99	.99
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99	.99
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	495.00	495.00
HORSES AND MULES												
FEED UNITS IN 1000'S	.83	.00	.00	.83	.00	.00	.00	.00	.00	.00	2.17	3.00
WT IN 1000 MET. TONS	2.07	.00	.00	2.07	.00	.00	.00	.00	.00	.00	2.17	4.25
FU/HEAD IN KILOGRAMS	276.67	.00	.00	276.67	.00	.00	.00	.00	.00	.00	723.33	1000.00
TOTAL FEED UNITS	8.98	.00	.00	8.98	8.17	.00	.00	8.17	2.72	.00	63.13	83.00
TOTAL WEIGHT	22.45	.00	.00	22.45	13.61	.00	.00	13.61	18.14	.00	63.13	117.33

1971 POUFGAGE REQUIREMENTS FOR IOWA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:	:	
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	563.12	.00	.00	563.12	216.88	4.90	551.10	1336.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	938.53	.00	.00	938.53	1445.89	27.22	551.10	2962.74
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1158.68	.00	.00	1158.68	446.26	10.08	1133.94	2748.97
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	154.06	.00	.00	154.06	.00	.00	232.94	387.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	256.77	.00	.00	256.77	.00	.00	232.94	489.71
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	987.56	.00	.00	987.56	.00	.00	1493.21	2480.77
CATTLE ON FEED												
FEED UNITS IN 1000'S	208.96	.00	.00	208.96	.00	.00	.00	.00	.00	.00	192.04	401.00
WT IN 1000 MET. TONS	509.66	.00	.00	509.66	.00	.00	.00	.00	.00	.00	192.04	701.70
FU/HEAD IN KILOGRAMS	104.90	.00	.00	104.90	.00	.00	.00	.00	.00	.00	96.41	201.31
OTHER BEEF												
FEED UNITS IN 1000'S	167.12	.00	.00	167.12	1471.79	.00	.00	1471.79	.00	.00	10145.09	11784.00
WT IN 1000 MET. TONS	407.62	.00	.00	407.62	2452.98	.00	.00	2452.98	.00	.00	10145.09	13005.69
FU/HEAD IN KILOGRAMS	24.72	.00	.00	24.72	217.69	.00	.00	217.69	.00	.00	1506.53	1742.94
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.31	3.31
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.31	3.31
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	12.49	18.49
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	305.69	305.69
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	305.69	305.69
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	521.66	521.66
HORSES AND MULES ...												
FEED UNITS IN 1000'S	30.44	.00	.00	30.44	.00	.00	.00	.00	.00	.00	79.56	110.00
WT IN 1000 MET. TONS	76.10	.00	.00	76.10	.00	.00	.00	.00	.00	.00	79.56	155.66
FU/HEAD IN KILOGRAMS	353.95	.00	.00	353.95	.00	.00	.00	.00	.00	.00	925.12	1279.07
TOTAL FEED UNITS ...	406.52	.00	.00	406.52	2188.97	.00	.00	2188.97	216.88	4.90	11509.72	14327.00
TOTAL WEIGHT	993.38	.00	.00	993.38	3648.28	.00	.00	3648.28	1445.89	27.22	11509.72	17624.49

1971 ROUGHAGE REQUIREMENTS FOR FLORIDA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	CUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:			
MILK COWS												
FEED UNITS IN 1000'S	52.85	.00	.00	52.85	.00	.00	.00	4.08	.00	220.07	.00	277.00
WT IN 1000 MET. TONS	132.13	.00	.00	132.13	.00	.00	.00	27.22	.00	220.07	.00	379.41
FU/HEAD IN KILOGRAMS	273.84	.00	.00	273.84	.00	.00	.00	21.16	.00	1140.24	.00	1435.23
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	39.00	.00	39.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	39.00	.00	39.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1300.00	.00	1300.00
CATTLE ON FEED												
FEED UNITS IN 1000'S	18.24	.00	.00	18.24	.00	.00	.00	.00	.00	16.76	.00	35.00
WT IN 1000 MET. TONS	44.49	.00	.00	44.49	.00	.00	.00	.00	.00	16.76	.00	61.25
FU/HEAD IN KILOGRAMS	320.00	.00	.00	320.00	.00	.00	.00	.00	.00	294.04	.00	614.04
OTHER BEEF												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	3339.00	.00	3339.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	3339.00	.00	3339.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1817.64	.00	1817.64
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.03
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.03
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.97	.00	2.97
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.97	.00	2.97
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	594.00	.00	594.00
HORSES AND MULES												
FEED UNITS IN 1000'S	7.19	.00	.00	7.19	.00	.00	.00	.00	.00	18.81	.00	26.00
WT IN 1000 MET. TONS	17.97	.00	.00	17.97	.00	.00	.00	.00	.00	18.81	.00	36.79
FU/HEAD IN KILOGRAMS	266.30	.00	.00	266.30	.00	.00	.00	.00	.00	696.67	.00	962.96
TOTAL FEED UNITS ...	78.28	.00	.00	78.28	.00	.00	.00	4.08	.00	3636.64	.00	3719.00
TOTAL WEIGHT	194.59	.00	.00	194.59	.00	.00	.00	27.22	.00	3636.64	.00	3858.45

1971 ROUSHAGE REQUIREMENTS FOR GEORGIA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:			
MILK COWS												
FEED UNITS IN 1000'S	135.91	.00	.00	135.90	5.72	.00	5.72	20.96	5.75	167.68		336.00
WT IN 1000 MET. TONS	339.76	.00	.00	339.76	9.53	.00	9.53	139.71	31.93	167.68		688.60
FU/HEAD IN KILOGRAMS	924.50	.00	.00	924.50	38.90	.00	38.90	142.56	39.10	1140.65		2285.71
OTHER DAIRY												
FEED UNITS IN 1000'S	35.83	.00	.00	35.83	.00	.00	.00	.00	.00	54.17		90.00
WT IN 1000 MET. TONS	89.57	.00	.00	89.57	.00	.00	.00	.00	.00	54.17		143.75
FU/HEAD IN KILOGRAMS	853.10	.00	.00	853.10	.00	.00	.00	.00	.00	1289.76		2142.86
CATTLE ON FEED												
FEED UNITS IN 1000'S	10.94	.00	.00	10.94	.00	.00	.00	.00	.00	10.06		21.00
WT IN 1000 MET. TONS	26.68	.00	.00	26.68	.00	.00	.00	.00	.00	10.06		36.74
FU/HEAD IN KILOGRAMS	185.42	.00	.00	185.42	.00	.00	.00	.00	.00	170.51		355.93
OTHER BEEF												
FEED UNITS IN 1000'S	42.01	.00	.00	42.01	.00	.00	.00	.00	.00	3349.99		3392.00
WT IN 1000 MET. TONS	102.45	.00	.00	102.45	.00	.00	.00	.00	.00	3349.99		3452.45
FU/HEAD IN KILOGRAMS	23.17	.00	.00	23.17	.00	.00	.00	.00	.00	1847.76		1870.93
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02		.02
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02		.02
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		.00
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.98		1.98
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.98		1.98
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	495.00		495.00
HORSES AND MULES												
FEED UNITS IN 1000'S	19.65	.00	.00	19.65	.00	.00	.00	.00	.00	51.35		71.00
WT IN 1000 MET. TONS	49.12	.00	.00	49.12	.00	.00	.00	.00	.00	51.35		100.48
FU/HEAD IN KILOGRAMS	272.92	.00	.00	272.92	.00	.00	.00	.00	.00	713.19		986.11
TOTAL FEED UNITS	244.33	.00	.00	244.33	5.72	.00	5.72	20.96	5.75	3635.25		3912.00
TOTAL WEIGHT	607.59	.00	.00	607.59	9.53	.00	9.53	139.71	31.93	3635.25		4424.01

1971 ROUGHAGE REQUIREMENTS FOR IDAHO

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:	SILAGE		PASTURE:	TOTAL
	IN STATE	OUT STATE	TOT	IN STATE	EXTRA	OUT STATE		CORN	SORGHUM:		
MILK COWS											
FEED UNITS IN 1000'S	.00	.00	.00	216.65	85.66	.00	303.31	33.09	.00	177.60	514.00
WT IN 1000 MET. TONS	.00	.00	.00	361.08	144.43	.00	505.52	220.63	.00	177.60	903.74
FU/HEAD IN KILOGRAMS	.00	.00	.00	1494.14	597.66	.00	2091.79	228.24	.00	1224.80	3544.83
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	.00	.00	49.76	24.88	.00	74.64	.00	.00	50.36	125.00
WT IN 1000 MET. TONS	.00	.00	.00	82.93	41.47	.00	124.40	.00	.00	50.36	174.76
FU/HEAD IN KILOGRAMS	.00	.00	.00	904.72	452.36	.00	1357.09	.00	.00	915.64	2272.73
CATTLE ON FEED											
FEED UNITS IN 1000'S	64.10	12.19	76.29	.00	.00	.00	.00	.00	.00	46.71	123.00
WT IN 1000 MET. TONS	156.34	29.74	186.08	.00	.00	.00	.00	.00	.00	46.71	232.79
FU/HEAD IN KILOGRAMS	288.74	54.92	343.66	.00	.00	.00	.00	.00	.00	210.39	554.05
OTHER BEEF											
FEED UNITS IN 1000'S	.00	.00	.00	498.88	374.16	.00	873.04	.00	.00	2155.96	3029.00
WT IN 1000 MET. TONS	.00	.00	.00	831.47	623.60	.00	1455.07	.00	.00	2155.96	3611.03
FU/HEAD IN KILOGRAMS	.00	.00	.00	308.90	231.68	.00	540.58	.00	.00	1334.96	1875.54
SHEEP ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	3.68	.00	.00	3.68	.00	.00	.39	4.07
WT IN 1000 MET. TONS	.00	.00	.00	6.13	.00	.00	6.13	.00	.00	.39	6.52
FU/HEAD IN KILOGRAMS	.00	.00	.00	26.10	.00	.00	26.10	.00	.00	2.77	28.87
STOCK SHEEP											
FEED UNITS IN 1000'S	.00	.00	.00	15.90	11.93	.00	27.83	.00	.00	348.10	375.93
WT IN 1000 MET. TONS	.00	.00	.00	26.50	19.88	.00	46.38	.00	.00	348.10	354.48
FU/HEAD IN KILOGRAMS	.00	.00	.00	23.14	17.37	.00	40.51	.00	.00	506.70	547.21
HORSES AND MULES											
FEED UNITS IN 1000'S	15.50	12.40	27.90	.00	.00	.00	.00	.00	.00	28.10	56.00
WT IN 1000 MET. TONS	38.75	31.00	69.75	.00	.00	.00	.00	.00	.00	28.10	97.85
FU/HEAD IN KILOGRAMS	303.92	243.14	547.06	.00	.00	.00	.00	.00	.00	550.98	1098.04
TOTAL FEED UNITS	79.60	24.59	104.19	784.87	497.63	.00	1282.50	33.09	.00	2807.21	4227.00
TOTAL WEIGHT	195.09	60.74	255.83	1308.12	829.38	.00	2137.50	220.63	.00	2807.21	5421.17

1971 ROUGHAGE REQUIREMENTS FOR ILLINOIS

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:			TOTAL
	IN STATE	OUT STATE	TOT	IN STATE	EXTRA	TOT	IN STATE	CORN	SORGHUM:	IN STATE	CORN	SORGHUM:	
MILK COWS													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	93.73	1.80	.00	380.00	.00	822.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	624.88	9.98	.00	380.00	.00	1592.31
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	319.90	6.13	.00	1296.93	.00	2805.46
OTHER DAIRY													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	125.20	.00	209.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	125.20	.00	263.20
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1375.82	.00	2285.71
CATTLE ON FEED													
FEED UNITS IN 1000'S	167.76	.00	167.76	.00	.00	.00	.00	.00	.00	.00	63.21	.00	132.00
WT IN 1000 MET. TONS	105.99	.00	105.99	.00	.00	.00	.00	.00	.00	.00	63.21	.00	230.99
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	97.40	.00	203.39
OTHER BEEF													
FEED UNITS IN 1000'S	172.40	.00	172.40	.00	.00	.00	.00	.00	.00	.00	4432.70	.00	5136.00
WT IN 1000 MET. TONS	420.48	.00	420.48	.00	.00	.00	.00	.00	.00	.00	4432.70	.00	5738.02
FU/HEAD IN KILOGRAMS	59.12	.00	59.12	.00	.00	.00	.00	.00	.00	.00	1520.13	.00	1761.32
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.35	.00	1.35
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.35	.00	1.35
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	22.50	.00	22.50
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	124.65	.00	124.65
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	124.65	.00	124.65
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	500.60	.00	500.60
HORSES AND MULES													
FEED UNITS IN 1000'S	23.52	.00	23.52	.00	.00	.00	.00	.00	.00	.00	61.48	.00	85.00
WT IN 1000 MET. TONS	58.80	.00	58.80	.00	.00	.00	.00	.00	.00	.00	61.48	.00	120.28
FU/HEAD IN KILOGRAMS	331.27	.00	331.27	.00	.00	.00	.00	.00	.00	.00	865.92	.00	1197.18
TOTAL FEED UNITS ...	264.71	.00	264.71	.00	.00	.00	.00	93.73	1.80	.00	5188.59	.00	6509.00
TOTAL WEIGHT	647.06	.00	647.06	.00	.00	.00	.00	624.88	9.98	.00	5188.59	.00	8070.80

1971 ROUGHAGE REQUIREMENTS FOR INDIANA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:				
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	312.33	.00	312.33	53.07	2.74	372.86			741.00
WT IN 1000 MET. TONS	.00	.00	.00	520.55	.00	520.55	353.81	15.24	372.86			1262.46
FU/HEAD IN KILOGRAMS	.00	.00	.00	1334.74	.00	1334.74	226.80	11.72	1593.40			3166.67
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	74.44	.00	74.44	.00	.00	112.56			187.00
WT IN 1000 MET. TONS	.00	.00	.00	124.07	.00	124.07	.00	.00	112.56			236.63
FU/HEAD IN KILOGRAMS	.00	.00	.00	966.75	.00	966.75	.00	.00	1461.82			2428.57
CATTLE ON FEED												
FEED UNITS IN 1000'S	32.31	.00	32.31	.00	.00	.00	.00	.00	29.69			62.00
WT IN 1000 MET. TONS	78.80	.00	78.80	.00	.00	.00	.00	.00	29.69			108.49
FU/HEAD IN KILOGRAMS	102.90	.00	102.90	.00	.00	.00	.00	.00	94.55			197.45
OTHER BEEF												
FEED UNITS IN 1000'S	215.40	.00	215.40	98.62	.00	98.62	.00	.00	2602.97			2917.00
WT IN 1000 MET. TONS	525.38	.00	525.38	164.37	.00	164.37	.00	.00	2602.97			3292.72
FU/HEAD IN KILOGRAMS	132.47	.00	132.47	60.65	.00	60.65	.00	.00	1600.84			1793.97
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	1.31			1.31
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	1.31			1.31
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	39.70			39.70
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	120.69			120.69
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	120.69			120.69
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	529.34			529.34
HORSES AND MULES												
FEED UNITS IN 1000'S	16.88	.00	16.88	.00	.00	.00	.00	.00	44.12			61.00
WT IN 1000 MET. TONS	42.20	.00	42.20	.00	.00	.00	.00	.00	44.12			86.32
FU/HEAD IN KILOGRAMS	330.98	.00	330.98	.00	.00	.00	.00	.00	865.10			1196.08
TOTAL FEED UNITS ...	264.59	.00	264.59	485.39	.00	485.39	53.07	2.74	3284.20			4090.00
TOTAL WEIGHT	646.38	.00	646.38	808.99	.00	808.99	353.81	15.24	3284.20			5108.62

1971 ROUGHAGE REQUIREMENTS FOR KANSAS

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	TOT	IN STATE	EXTRA	TOT	CORN	SORGHUM	TOT	ALFALFA	SORGHUM	
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	432.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1241.87
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	124.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	216.95
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CATTLE ON FEED												
FEED UNITS IN 1000'S	285.56	.00	285.56	.00	.00	.00	.00	.00	.00	.00	.00	548.00
WT IN 1000 MET. TONS	696.49	.00	696.49	.00	.00	.00	.00	.00	.00	.00	.00	1069.79
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
OTHER BEEF												
FEED UNITS IN 1000'S	112.39	.00	112.39	.00	.00	.00	.00	.00	.00	.00	.00	9862.54
WT IN 1000 MET. TONS	274.13	.00	274.13	.00	.00	.00	.00	.00	.00	.00	.00	11511.78
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.14
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.14
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	105.86
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	105.86
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
HORSES AND MULES												
FEED UNITS IN 1000'S	23.80	.00	23.80	.00	.00	.00	.00	.00	.00	.00	.00	62.20
WT IN 1000 MET. TONS	59.50	.00	59.50	.00	.00	.00	.00	.00	.00	.00	.00	121.70
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
TOTAL FEED UNITS ...	421.75	.00	421.75	1056.52	.00	1056.52	98.03	79.32	10441.38	12097.00		
TOTAL WEIGHT	1030.12	.00	1030.12	1760.86	.00	1760.86	653.54	383.20	10441.38	14269.10		

1971 ROUGHAGE REQUIREMENTS FOR KENTUCKY

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:			SILAGE		PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:					
MILK COWS														
FEED UNITS IN 1000'S	35.25	.00	.00	35.25	254.74	.00	.00	254.74	43.52,	1.96	352.53	688.00		
WT IN 1000 MET. TONS	88.12	.00	.00	88.12	424.57	.00	.00	424.57	290.12	10.89	352.53	1165.23		
FU/HEAD IN KILOGRAMS	105.65	.00	.00	105.65	764.99	.00	.00	764.99	130.68	5.89	1058.65	2066.07		
OTHER DAIRY														
FEED UNITS IN 1000'S	73.25	.00	.00	73.25	.00	.00	.00	.00	.00	.00	110.75	184.00		
WT IN 1000 MET. TONS	163.12	.00	.00	163.12	.00	.00	.00	.00	.00	.00	110.75	293.88		
FU/HEAD IN KILOGRAMS	823.03	.00	.00	823.03	.00	.00	.00	.00	.00	.00	1244.38	2067.42		
CATTLE ON FEED														
FEED UNITS IN 1000'S	6.77	.00	.00	6.77	.00	.00	.00	.00	.00	.00	6.23	13.00		
WT IN 1000 MET. TONS	16.51	.00	.00	16.51	.00	.00	.00	.00	.00	.00	6.23	22.74		
FU/HEAD IN KILOGRAMS	141.04	.00	.00	141.04	.00	.00	.00	.00	.00	.00	129.79	270.83		
OTHER BEEF														
FEED UNITS IN 1000'S	475.82	.00	.00	475.82	.00	.00	.00	.00	.00	.00	3923.18	4399.00		
WT IN 1000 MET. TONS	1166.54	.00	.00	1166.54	.00	.00	.00	.00	.00	.00	3923.18	5083.72		
FU/HEAD IN KILOGRAMS	195.25	.00	.00	195.25	.00	.00	.00	.00	.00	.00	1609.84	1805.09		
SHEEP ON FEED														
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.34	.34		
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.34	.34		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
STOCK SHEEP														
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	31.66	31.66		
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	31.66	31.66		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	359.77	359.77		
HORSES AND MULES														
FEED UNITS IN 1000'S	39.84	.00	.00	39.84	.00	.00	.00	.00	.00	.00	104.16	144.00		
WT IN 1000 MET. TONS	99.60	.00	.00	99.60	.00	.00	.00	.00	.00	.00	104.16	203.76		
FU/HEAD IN KILOGRAMS	265.60	.00	.00	265.60	.00	.00	.00	.00	.00	.00	694.40	960.00		
TOTAL FEED UNITS	630.93	.00	.00	630.93	254.74	.00	.00	254.74	43.52	1.96	4528.85	5460.00		
TOTAL WEIGHT	1547.90	.00	.00	1547.90	424.57	.00	.00	424.57	290.12	10.89	4528.85	6802.33		

1971 ROUGHAGE REQUIREMENTS FOR LOUISIANA

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:		SILAGE		SORGHUM:		TOTAL
	IN STATE	EXTRA	OUT STATE	IN STATE	EXTRA	OUT STATE	IN STATE	OUT STATE	IN STATE	OUT STATE	IN STATE	OUT STATE	
MILK COWS													
FEED UNITS IN 1000'S	102.10	.00	.00	102.10	15.92	.00	.00	15.92	3.27	1.44	157.28	280.00	
WT IN 1000 MET. TONS	255.24	.00	.00	255.24	26.54	.00	.00	26.54	21.77	7.98	157.28	468.81	
FU/HEAD IN KILOGRAMS	630.22	.00	.00	630.22	98.30	.00	.00	98.30	20.16	8.87	970.85	1728.40	
OTHER DAIRY													
FEED UNITS IN 1000'S	33.04	.00	.00	33.04	.00	.00	.00	.00	.00	.00	49.96	83.00	
WT IN 1000 MET. TONS	82.69	.00	.00	82.69	.00	.00	.00	.00	.00	.00	49.96	132.56	
FU/HEAD IN KILOGRAMS	734.22	.00	.00	734.22	.00	.00	.00	.00	.00	.00	1110.22	1844.44	
CATTLE ON FEED													
FEED UNITS IN 1000'S	2.61	.00	.00	2.61	.00	.00	.00	.00	.00	.00	2.39	5.00	
WT IN 1000 MET. TONS	6.37	.00	.00	6.37	.00	.00	.00	.00	.00	.00	2.39	8.76	
FU/HEAD IN KILOGRAMS	290.00	.00	.00	290.00	.00	.00	.00	.00	.00	.00	265.56	555.56	
OTHER BEEF													
FEED UNITS IN 1000'S	40.72	.00	.00	40.72	.00	.00	.00	.00	.00	.00	2335.28	2376.00	
WT IN 1000 MET. TONS	59.31	.00	.00	59.31	.00	.00	.00	.00	.00	.00	2335.28	2434.60	
FU/HEAD IN KILOGRAMS	28.61	.00	.00	28.61	.00	.00	.00	.00	.00	.00	1641.10	1669.71	
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	.09	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	.09	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	7.91	7.91	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	7.91	7.91	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	343.91	343.91	
HORSES AND MULES ...													
FEED UNITS IN 1000'S	18.82	.00	.00	18.82	.00	.00	.00	.00	.00	.00	49.18	68.00	
WT IN 1000 MET. TONS	47.05	.00	.00	47.05	.00	.00	.00	.00	.00	.00	49.18	96.23	
FU/HEAD IN KILOGRAMS	213.86	.00	.00	213.86	.00	.00	.00	.00	.00	.00	558.86	772.73	
TOTAL FEED UNITS ...	197.28	.00	.00	197.28	15.92	.00	.00	15.92	3.27	1.44	2602.09	2820.00	
TOTAL WEIGHT	490.57	.00	.00	490.57	26.54	.00	.00	26.54	21.77	7.98	2602.09	3148.95	

1971 ROUGHAGE REQUIREMENTS FOR MAINE

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE		PASTURE		TOTAL
	IN STATE	EXTRA	TOT	IN STATE	EXTRA	TOT	CORN	SORGHUM			
MILK COWS											
FEED UNITS IN 1000'S	49.45	.00	.00	17.15	.00	.00	10.67	.00	80.73	152.00	
WT IN 1000 MET. TONS	123.63	.00	.00	28.58	.00	.00	71.12	.00	80.73	304.06	
FU/HEAD IN KILOGRAMS	810.69	.00	.00	281.11	.00	.00	174.89	.00	1323.48	2590.16	
OTHER DAIRY											
FEED UNITS IN 1000'S	19.90	.00	.00	.00	.00	.00	.00	.00	30.10	50.00	
WT IN 1000 MET. TONS	49.75	.00	.00	.00	.00	.00	.00	.00	30.10	79.85	
FU/HEAD IN KILOGRAMS	829.17	.00	.00	.00	.00	.00	.00	.00	1254.17	2083.33	
CATTLE ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
OTHER BEEF											
FEED UNITS IN 1000'S	15.81	.00	.00	.00	.00	.00	.00	.00	80.19	96.00	
WT IN 1000 MET. TONS	38.56	.00	.00	.00	.00	.00	.00	.00	80.19	118.75	
FU/HEAD IN KILOGRAMS	316.20	.00	.00	.00	.00	.00	.00	.00	1603.80	1920.00	
SHEEP ON FEED											
FEED UNITS IN 1000'S	.06	.00	.00	.00	.00	.00	.00	.00	.00	.06	
WT IN 1000 MET. TONS	.14	.00	.00	.00	.00	.00	.00	.00	.00	.14	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP											
FEED UNITS IN 1000'S	.25	.00	.00	.00	.00	.00	.00	.00	5.69	5.94	
WT IN 1000 MET. TONS	.60	.00	.00	.00	.00	.00	.00	.00	5.69	6.29	
FU/HEAD IN KILOGRAMS	16.67	.00	.00	.00	.00	.00	.00	.00	379.33	396.00	
HORSES AND MULES											
FEED UNITS IN 1000'S	2.77	.34	.00	.00	.00	.00	.00	.00	6.89	10.00	
WT IN 1000 MET. TONS	6.93	.85	.00	.00	.00	.00	.00	.00	6.89	14.66	
FU/HEAD IN KILOGRAMS	346.25	42.30	.00	.00	.00	.00	.00	.00	861.45	1250.00	
TOTAL FEED UNITS	28.24	.34	.00	17.15	.00	.00	10.67	.00	203.60	320.00	
TOTAL WEIGHT	219.60	.85	.00	28.58	.00	.00	71.12	.00	203.60	523.75	

1971 ROUGHAGE REQUIREMENTS FOR MARYLAND

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:				
MILK COWS													
FEED UNITS IN 1000'S	99.60	.00	.00	99.60	87.77	.00	87.77	31.57	.00	234.05	.00	453.00	
WT IN 1000 MET. TONS	249.01	.00	.00	249.01	146.25	.00	146.25	210.47	.00	234.05	.00	839.82	
FU/HEAD IN KILOGRAMS	668.48	.00	.00	668.48	589.09	.00	589.09	211.88	.00	1570.82	.00	3040.27	
OTHER DAIRY													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	97.00	.00	97.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	97.00	.00	97.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	2309.52	.00	2309.52	
CATTLE ON FEED													
FEED UNITS IN 1000'S	5.21	.00	.00	5.21	.00	.00	.00	.00	.00	4.79	.00	10.00	
WT IN 1000 MET. TONS	12.71	.00	.00	12.71	.00	.00	.00	.00	.00	4.79	.00	17.50	
FU/HEAD IN KILOGRAMS	260.50	.00	.00	260.50	.00	.00	.00	.00	.00	239.50	.00	500.00	
OTHER BEEF													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	378.00	.00	378.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	378.00	.00	378.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1880.60	.00	1880.60	
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10	.00	.10	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10	.00	.10	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.90	.00	8.90	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.90	.00	8.90	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	445.00	.00	445.00	
HORSES AND MULES													
FEED UNITS IN 1000'S	5.81	.00	.00	5.81	.00	.00	.00	.00	.00	15.19	.00	21.00	
WT IN 1000 MET. TONS	14.52	.00	.00	14.52	.00	.00	.00	.00	.00	15.19	.00	29.72	
FU/HEAD IN KILOGRAMS	363.12	.00	.00	363.12	.00	.00	.00	.00	.00	949.38	.00	1312.50	
TOTAL FEED UNITS ...	110.62	.00	.00	110.62	87.77	.00	87.77	31.57	.00	738.03	.00	966.00	
TOTAL WEIGHT	276.24	.00	.00	276.24	146.29	.00	146.29	210.47	.00	738.03	.00	1371.03	

1971 ROUGHAGE REQUIREMENTS FOR MASSACHUSETTS

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE		
	IN STATE	EXTRA	OUT STATE	IN STATE	EXTRA	OUT STATE	TOT ALF	CORN	SORGHUM			TOTAL
MILK COWS												
FEED UNITS IN 1000'S	31.86	.00	.00	31.86	33.47	.00	33.47	13.93	.00	75.74	155.60	
WT IN 1000 MET. TONS	79.64	.00	.00	79.64	55.79	.00	55.79	92.90	.00	75.74	304.07	
FU/HEAD IN KILOGRAMS	530.93	.00	.00	530.93	557.90	.00	557.90	232.25	.00	1262.25	2593.33	
OTHER DAIRY												
FEED UNITS IN 1000'S	8.93	.00	.00	8.93	.00	.00	.00	.00	.00	22.07	31.00	
WT IN 1000 MET. TONS	22.33	.00	.00	22.33	.00	.00	.00	.00	.00	22.07	44.40	
FU/HEAD IN KILOGRAMS	595.47	.00	.00	595.47	.00	.00	.00	.00	.00	1471.20	2066.67	
CATTLE ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
OTHER BEFF												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.03	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.03	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.97	2.97	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.97	2.97	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	371.25	371.25	
HORSES AND MULES												
FEED UNITS IN 1000'S	1.94	.00	.00	1.94	.00	.00	.00	.00	.00	5.06	7.00	
WT IN 1000 MET. TONS	4.85	.00	.00	4.85	.00	.00	.00	.00	.00	5.06	9.91	
FU/HEAD IN KILOGRAMS	388.00	.00	.00	388.00	.00	.00	.00	.00	.00	1012.00	1400.00	
TOTAL FEED UNITS	42.73	.00	.00	42.73	33.47	.00	33.47	13.93	.00	165.86	256.00	
TOTAL WEIGHT	106.82	.00	.00	106.82	55.79	.00	55.79	92.90	.00	165.86	421.37	

1971 ROUGHAGE REQUIREMENTS FOR MICHIGAN

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:				
MILK COWS													
FEED UNITS IN 1000'S	.00	81.87	.00	81.87	606.54	96.74	.00	703.28	94.41	.00	559.44	1439.00	
WT IN 1000 MET. TONS	.00	204.67	.00	204.67	1010.90	161.23	.00	1172.13	629.41	.00	559.44	2565.65	
FU/HEAD IN KILOGRAMS	.00	189.95	.00	189.95	1407.29	224.45	.00	1631.73	219.05	.00	1298.01	3338.75	
OTHER DAIRY													
FEED UNITS IN 1000'S	.00	.00	.00	.00	158.84	.00	.00	158.84	.00	.00	240.16	399.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	264.73	.00	.00	264.73	.00	.00	240.16	504.89	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	956.87	.00	.00	956.87	.00	.00	1446.75	2403.61	
CATTLE ON FEED													
FEED UNITS IN 1000'S	21.89	10.94	.00	32.83	.00	.00	.00	.00	.00	.00	9.17	42.00	
WT IN 1000 MET. TONS	53.39	26.68	.00	80.07	.00	.00	.00	.00	.00	.00	9.17	89.24	
FU/HEAD IN KILOGRAMS	97.29	48.62	.00	145.91	.00	.00	.00	.00	.00	.00	40.76	186.67	
OTHER BEEF													
FEED UNITS IN 1000'S	.00	.00	.00	.00	269.12	.00	.00	269.12	.00	.00	1364.88	1634.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	448.53	.00	.00	448.53	.00	.00	1364.88	1813.41	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	279.46	.00	.00	279.46	.00	.00	1417.32	1696.78	
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.84	.00	.00	.84	.00	.00	.09	.93	
WT IN 1000 MET. TONS	.00	.00	.00	.00	1.40	.00	.00	1.40	.00	.00	.09	1.49	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	14.00	.00	.00	14.00	.00	.00	1.50	15.50	
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	3.64	.00	.00	3.64	.00	.00	82.43	86.07	
WT IN 1000 MET. TONS	.00	.00	.00	.00	6.07	.00	.00	6.07	.00	.00	82.43	88.50	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	18.67	.00	.00	18.67	.00	.00	422.72	441.38	
HORSES AND MULES													
FEED UNITS IN 1000'S	12.17	9.74	.00	21.91	.00	.00	.00	.00	.00	.00	22.09	44.00	
WT IN 1000 MET. TONS	30.42	24.35	.00	54.77	.00	.00	.00	.00	.00	.00	22.09	76.87	
FU/HEAD IN KILOGRAMS	338.06	270.56	.00	608.61	.00	.00	.00	.00	.00	.00	613.61	1222.22	
TOTAL FEED UNITS	34.06	102.55	.00	136.61	1038.98	96.74	.00	1135.72	94.41	.00	2278.26	3645.00	
TOTAL WEIGHT	83.82	255.70	.00	339.52	1731.63	161.23	.00	1892.86	629.41	.00	2278.26	5140.05	

1971 ROUGHAGE REQUIREMENTS FOR MINNESOTA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:			TOTAL
	IN STATE	EXTRA	TOT	IN STATE	EXTRA	TOT	CORN	ALF:	SORGHUM:				
MILK COWS													
FEED UNITS IN 1000'S	.00	59.36	.00	59.36	1192.42	417.61	192.72	1610.03	.00	966.89	2829.00		
WT IN 1000 WET. TONS	.00	148.39	.00	148.39	1987.37	696.02	1284.77	2683.39	.00	966.89	5083.44		
FU/HEAD IN KILOGRAMS	.00	62.68	.00	62.68	1259.16	440.99	203.50	1700.14	.00	1021.01	2987.33		
OTHER DAIRY													
FEED UNITS IN 1000'S	.00	134.36	.00	134.36	268.72	.00	.00	268.72	.00	271.92	675.00		
WT IN 1000 WET. TONS	.00	335.90	.00	335.90	447.87	.00	.00	447.87	.00	271.92	1055.69		
FU/HEAD IN KILOGRAMS	.00	399.88	.00	399.88	799.76	.00	.00	799.76	.00	809.29	2008.93		
CATTLE ON FEED													
FEED UNITS IN 1000'S	47.42	23.71	.00	71.13	.00	.00	.00	.00	.00	19.87	91.00		
WT IN 1000 WET. TONS	115.66	57.83	.00	173.49	.00	.00	.00	.00	.00	19.87	193.36		
FU/HEAD IN KILOGRAMS	86.53	43.27	.00	129.80	.00	.00	.00	.00	.00	36.26	166.06		
OTHER BEEF													
FEED UNITS IN 1000'S	.00	142.96	.00	142.96	750.37	.00	.00	750.37	.00	3662.67	4556.00		
WT IN 1000 WET. TONS	.00	348.68	.00	348.68	1250.62	.00	.00	1250.62	.00	3662.67	5261.97		
FU/HEAD IN KILOGRAMS	.00	52.65	.00	52.65	276.38	.00	.00	276.38	.00	1349.05	1678.08		
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	1.60	.00	.00	1.60	.00	.17	1.77		
WT IN 1000 WET. TONS	.00	.00	.00	.00	2.67	.00	.00	2.67	.00	.17	2.84		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	14.41	.00	.00	14.41	.00	1.53	15.95		
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	6.90	.00	.00	6.90	.00	156.33	163.23		
WT IN 1000 WET. TONS	.00	.00	.00	.00	11.50	.00	.00	11.50	.00	156.33	167.83		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	17.56	.00	.00	17.56	.00	397.79	415.34		
HORSES AND MULES													
FEED UNITS IN 1000'S	18.26	14.61	.00	32.87	.00	.00	.00	.00	.00	33.13	66.00		
WT IN 1000 WET. TONS	45.65	36.53	.00	82.18	.00	.00	.00	.00	.00	33.13	115.31		
FU/HEAD IN KILOGRAMS	309.49	247.63	.00	557.12	.00	.00	.00	.00	.00	561.53	1116.64		
TOTAL FEED UNITS	65.68	374.99	.00	440.67	2220.01	417.61	192.72	2637.62	.00	5110.99	8382.00		
TOTAL WEIGHT	161.31	927.32	.00	1088.63	3700.02	696.02	1284.77	4396.04	.00	5110.99	11680.43		

1971 ROUGHAGE REQUIREMENTS FOR MISSISSIPPI

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:		SILAGE		PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:			
MILK COWS													
FEED UNITS IN 1000'S	107.14	.00	.00	107.14	15.52	.00	.00	15.52	14.15	19.11	135.08	291.00	
WT IN 1000 MET. TONS	267.86	.00	.00	267.86	25.86	.00	.00	25.86	94.35	106.14	135.08	629.29	
FU/HEAD IN KILOGRAMS	608.77	.00	.00	608.77	88.16	.00	.00	88.16	80.41	108.55	767.51	1653.41	
OTHER DAIRY													
FEED UNITS IN 1000'S	31.05	.00	.00	31.05	.00	.00	.00	.00	.00	.00	46.95	78.00	
WT IN 1000 MET. TONS	77.62	.00	.00	77.62	.00	.00	.00	.00	.00	.00	46.95	124.58	
FU/HEAD IN KILOGRAMS	608.82	.00	.00	608.82	.00	.00	.00	.00	.00	.00	920.59	1529.41	
CATTLE ON FEED													
FEED UNITS IN 1000'S	4.69	.00	.00	4.69	.00	.00	.00	.00	.00	.00	4.31	9.00	
WT IN 1000 MET. TONS	11.44	.00	.00	11.44	.00	.00	.00	.00	.00	.00	4.31	15.75	
FU/HEAD IN KILOGRAMS	312.67	.00	.00	312.67	.00	.00	.00	.00	.00	.00	287.33	600.00	
OTHER BEEF													
FEED UNITS IN 1000'S	101.73	.00	.00	101.73	.00	.00	.00	.00	.00	.00	3073.27	3175.00	
WT IN 1000 MET. TONS	248.12	.00	.00	248.12	.00	.00	.00	.00	.00	.00	3073.27	3321.39	
FU/HEAD IN KILOGRAMS	50.19	.00	.00	50.19	.00	.00	.00	.00	.00	.00	1516.17	1566.35	
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.04	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.04	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.96	3.96	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.96	3.96	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	360.00	360.00	
HORSES AND MULES													
FEED UNITS IN 1000'S	28.78	.00	.00	28.78	.00	.00	.00	.00	.00	.00	75.22	104.00	
WT IN 1000 MET. TONS	71.95	.00	.00	71.95	.00	.00	.00	.00	.00	.00	75.22	147.17	
FU/HEAD IN KILOGRAMS	201.26	.00	.00	201.26	.00	.00	.00	.00	.00	.00	526.01	727.27	
TOTAL FEED UNITS	273.39	.00	.00	273.39	15.52	.00	.00	15.52	14.15	19.11	3338.83	3661.00	
TOTAL WEIGHT	676.99	.00	.00	676.99	25.86	.00	.00	25.86	94.35	106.14	3338.83	4242.17	

1971 POUHAGE REQUIREMENTS FOR MISSOURI

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:			SILAGE			PASTURE:			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:	CORN	SORGHUM:	CORN	SORGHUM:			
MILK COWS																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	367.97	50.68	7.84	446.52	873.00					
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	613.28	337.84	43.55	446.52	1441.19					
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	2010.77	276.92	42.84	2439.97	4770.49					
OTHER DAIRY																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	95.15	.00	.00	143.85	239.00					
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	158.58	.00	.00	143.85	302.43					
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	1640.52	.00	.00	2480.17	4120.69					
CATTLE ON FEED																
FEED UNITS IN 1000'S	40.65	.00	.00	40.65	.00	.00	.00	.00	.00	37.35	78.00					
WT IN 1000 MET. TONS	99.15	.00	.00	99.15	.00	.00	.00	.00	.00	37.35	136.50					
FU/HEAD IN KILOGRAMS	44.38	.00	.00	44.38	.00	.00	.00	.00	.00	40.78	65.15					
OTHER BEEF																
FEED UNITS IN 1000'S	889.72	.00	.00	889.72	.00	.00	446.43	.00	.00	8097.84	9434.00					
WT IN 1000 MET. TONS	2170.06	.00	.00	2170.06	.00	.00	744.05	.00	.00	8097.84	11011.96					
FU/HEAD IN KILOGRAMS	142.22	.00	.00	142.22	.00	.00	71.36	.00	.00	1294.41	1507.99					
SHEEP ON FEED																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.96	.96					
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.96	.96					
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	12.80	12.80					
STOCK SHEEP																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	89.04	89.04					
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	89.04	89.04					
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	351.94	351.94					
HORSES AND MULES ...																
FEED UNITS IN 1000'S	30.99	.00	.00	30.99	.00	.00	.00	.00	.00	81.01	112.00					
WT IN 1000 MET. TONS	77.47	.00	.00	77.47	.00	.00	.00	.00	.00	81.01	158.49					
FU/HEAD IN KILOGRAMS	442.71	.00	.00	442.71	.00	.00	.00	.00	.00	1157.29	1600.00					
TOTAL FEED UNITS ...	961.36	.00	.00	961.36	.00	.00	909.55	50.68	7.84	8896.57	10826.00					
TOTAL WEIGHT	2346.68	.00	.00	2346.68	.00	.00	1515.92	337.84	43.55	8896.57	13140.56					

1971 ROUGHAGE REQUIREMENTS FOR MONTANA

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:	CORN	SORGHUM:				
MILK COWS															
FEED UNITS IN 1000'S	.00	.00	.00	.00	41.31	16.52	.00	57.83	.00	20.25	.00	19.92		98.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	68.85	27.53	.00	96.38	.00	134.99	.00	19.92		251.29	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1147.59	458.89	.00	1606.39	.00	562.46	.00	553.38		2722.22	
OTHER DAIRY															
FEED UNITS IN 1000'S	.00	.00	.00	.00	9.55	4.78	.00	14.33	.00	.00	.00	9.67		24.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	15.92	7.97	.00	23.88	.00	.00	.00	9.67		33.55	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	795.83	398.33	.00	1194.17	.00	.00	.00	805.83		2000.00	
CATTLE ON FEED															
FEED UNITS IN 1000'S	26.58	13.29	.00	34.87	.00	.00	.00	.00	.00	.00	.00	11.13		51.00	
WT IN 1000 MET. TONS	64.83	32.41	.00	97.24	.00	.00	.00	.00	.00	.00	.00	11.13		108.37	
FU/HEAD IN KILOGRAMS	204.46	102.23	.00	306.65	.00	.00	.00	.00	.00	.00	.00	85.62		392.31	
OTHER BEEF															
FEED UNITS IN 1000'S	.00	358.33	.00	358.33	876.86	48.75	.00	925.61	.00	.00	.00	4040.06		5324.00	
WT IN 1000 MET. TONS	.00	873.98	.00	873.98	1461.43	81.25	.00	1542.68	.00	.00	.00	4040.06		6456.72	
FU/HEAD IN KILOGRAMS	.00	114.96	.00	114.96	281.32	15.64	.00	296.95	.00	.00	.00	1296.14		1708.05	
SHEEP ON FEED															
FEED UNITS IN 1000'S	.00	.00	.00	.00	4.14	.00	.00	4.14	.00	.00	.00	.43		4.57	
WT IN 1000 MET. TONS	.00	.00	.00	.00	6.90	.00	.00	6.90	.00	.00	.00	.43		7.33	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	41.40	.00	.00	41.40	.00	.00	.00	4.30		45.70	
STOCK SHEEP															
FEED UNITS IN 1000'S	.00	.00	.00	.00	17.87	.00	.00	17.87	.00	.00	.00	404.56		422.43	
WT IN 1000 MET. TONS	.00	.00	.00	.00	29.78	.00	.00	29.78	.00	.00	.00	404.56		434.34	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	18.48	.00	.00	18.48	.00	.00	.00	418.37		436.85	
HORSES AND MULES															
FEED UNITS IN 1000'S	23.52	18.82	.00	42.34	.00	.00	.00	.00	.00	.00	.00	42.66		85.00	
WT IN 1000 MET. TONS	58.80	47.05	.00	105.85	.00	.00	.00	.00	.00	.00	.00	42.66		148.51	
FU/HEAD IN KILOGRAMS	267.27	213.86	.00	481.14	.00	.00	.00	.00	.00	.00	.00	484.77		965.91	
TOTAL FEED UNITS	50.10	390.44	.00	440.54	949.73	70.05	.00	1019.78	.00	20.25	.00	4528.43		6009.00	
TOTAL WEIGHT	123.63	953.44	.00	1077.07	1582.88	116.75	.00	1699.63	.00	134.99	.00	4528.43		7440.12	

1971 ROUGHAGE REQUIREMENTS FOR NEBRASKA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE: TOTAL		
	IN STATE	EXTRA	TOT	IN STATE	EXTRA	TOT	ALF:	CORN	SORGHUM:			
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	170.29	118.98	.00	114.73	404.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	283.82	793.20	.00	114.73	1191.75	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	32.25	8.61	.00	40.14	81.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	53.75	57.40	.00	40.14	151.29	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
CATTLE ON FEED												
FEED UNITS IN 1000'S	447.10	4.90	452.00	.00	.00	.00	.00	.62	31.75	373.63	858.00	
WT IN 1000 MET. TONS	1090.49	11.96	1102.45	.00	.00	.00	.00	3.43	127.01	373.63	1606.52	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
OTHER BEEF												
FEED UNITS IN 1000'S	87.15	.00	87.15	.00	.00	.00	1440.61	.00	.00	7748.24	9276.00	
WT IN 1000 MET. TONS	212.55	.00	212.55	.00	.00	.00	2401.02	.00	.00	7748.24	10361.81	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
SHEEP ON FEED												
FEED UNITS IN 1000'S	.96	.00	.96	.00	.00	.00	.00	.00	.00	.10	1.06	
WT IN 1000 MET. TONS	2.29	.00	2.29	.00	.00	.00	.00	.00	.00	.10	2.39	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP												
FEED UNITS IN 1000'S	4.14	.00	4.14	.00	.00	.00	.00	.00	.00	93.80	97.94	
WT IN 1000 MET. TONS	9.86	.00	9.86	.00	.00	.00	.00	.00	.00	93.80	103.66	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
HORSES AND MULES												
FEED UNITS IN 1000'S	18.82	15.05	33.87	.00	.00	.00	.00	.00	.00	.00	68.00	
WT IN 1000 MET. TONS	47.05	37.62	84.67	.00	.00	.00	.00	.00	.00	34.13	118.81	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
TOTAL FEED UNITS ...	558.17	19.95	578.12	.00	.00	.00	1643.15	128.21	31.75	8404.77	10786.00	
TOTAL WEIGHT	1362.23	49.59	1411.82	.00	.00	.00	2738.59	854.03	127.01	8404.77	13536.22	

1971 ROUSHAGE REQUIREMENTS FOR NEVADA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE		PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:	
MILK COWS											
FEED UNITS IN 1000'S	.00	8.77	.00	8.77	21.92	.00	.00	21.92	1.31	.00	52.00
WT IN 1000 MET. TONS	.00	21.92	.00	21.92	36.53	.00	.00	36.53	8.71	.00	87.17
FU/HEAD IN KILOGRAMS	.00	626.43	.00	626.43	1565.71	.00	.00	1565.71	93.32	.00	3714.29
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	2.99	.00	2.99	5.57	.00	.00	5.97	.00	.00	15.00
WT IN 1000 MET. TONS	.00	7.48	.00	7.48	9.95	.00	.00	9.95	.00	.00	23.47
FU/HEAD IN KILOGRAMS	.00	598.00	.00	598.00	1194.00	.00	.00	1194.00	.00	.00	3000.00
CATTLE ON FEED											
FEED UNITS IN 1000'S	20.32	10.16	.00	30.48	.00	.00	.00	.00	.00	.00	39.00
WT IN 1000 MET. TONS	49.56	24.78	.00	74.34	.00	.00	.00	.00	.00	.00	82.86
FU/HEAD IN KILOGRAMS	451.56	225.78	.00	677.33	.00	.00	.00	.00	.00	.00	866.67
OTHER BEEF											
FEED UNITS IN 1000'S	22.56	8.55	.00	31.12	205.22	.00	.00	205.22	.00	.00	1383.00
WT IN 1000 MET. TONS	55.03	20.46	.00	75.49	342.03	.00	.00	342.03	.00	.00	1564.59
FU/HEAD IN KILOGRAMS	36.39	13.60	.00	50.15	330.99	.00	.00	330.99	.00	.00	2230.65
SHEEP ON FEED											
FEED UNITS IN 1000'S	.98	.00	.00	.98	.00	.00	.00	.00	.00	.00	1.06
WT IN 1000 MET. TONS	2.33	.00	.00	2.33	.00	.00	.00	.00	.00	.00	2.43
FU/HEAD IN KILOGRAMS	42.61	.00	.00	42.61	.00	.00	.00	.00	.00	.00	46.96
STOCK SHEEP											
FEED UNITS IN 1000'S	4.23	.00	.00	4.23	.00	.00	.00	.00	.00	.00	99.92
WT IN 1000 MET. TONS	10.07	.00	.00	10.07	.00	.00	.00	.00	.00	.00	105.76
FU/HEAD IN KILOGRAMS	23.11	.00	.00	23.11	.00	.00	.00	.00	.00	.00	546.01
HORSES AND MULES											
FEED UNITS IN 1000'S	6.92	5.53	.00	12.45	.00	.00	.00	.00	.00	.00	25.00
WT IN 1000 MET. TONS	17.30	13.92	.00	31.12	.00	.00	.00	.00	.00	.00	43.68
FU/HEAD IN KILOGRAMS	346.00	276.50	.00	622.50	.00	.00	.00	.00	.00	.00	1250.00
TOTAL FEED UNITS ...	55.01	36.00	.00	91.02	233.11	.00	.00	233.11	1.31	.00	1615.00
TOTAL WEIGHT	134.30	88.87	.00	223.17	388.51	.00	.00	388.51	8.71	.00	1909.96

1971 ROUGHAGE REQUIREMENTS FOR NEW HAMPSHIRE

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:IN STATE	CORN	SORGHUM:	:		
MILK COWS												
FEED UNITS IN 1000'S	16.29	.00	.00	16.29	21.64	.00	21.64	7.65	.00	44.42	90.00	
WT IN 1000 MET. TONS	40.74	.00	.00	40.74	36.06	.00	36.06	50.98	.00	44.42	172.20	
FU/HEAD IN KILOGRAMS	455.54	.00	.00	465.54	618.17	.00	618.17	218.49	.00	1269.23	2571.43	
OTHER DAIRY												
FEED UNITS IN 1000'S	10.35	.00	.00	10.35	.00	.00	.00	.00	.00	15.65	26.00	
WT IN 1000 MET. TONS	25.87	.00	.00	25.87	.00	.00	.00	.00	.00	15.65	41.53	
FU/HEAD IN KILOGRAMS	796.15	.00	.00	796.15	.00	.00	.00	.00	.00	1203.85	2000.00	
CATTLE ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
OTHER BEEF												
FEED UNITS IN 1000'S	5.93	.00	.00	5.93	.00	.00	.00	.00	.00	30.07	36.00	
WT IN 1000 MET. TONS	14.46	.00	.00	14.46	.00	.00	.00	.00	.00	30.07	44.53	
FU/HEAD IN KILOGRAMS	257.83	.00	.00	257.83	.00	.00	.00	.00	.00	1307.39	1565.22	
SHEEP ON FEED												
FEED UNITS IN 1000'S	.02	.00	.00	.02	.00	.00	.00	.00	.00	.00	.02	
WT IN 1000 MET. TONS	.05	.00	.00	.05	.00	.00	.00	.00	.00	.00	.05	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP												
FEED UNITS IN 1000'S	.08	.00	.00	.08	.00	.00	.00	.00	.00	1.90	1.98	
WT IN 1000 MET. TONS	.19	.00	.00	.19	.00	.00	.00	.00	.00	1.90	2.09	
FU/HEAD IN KILOGRAMS	16.00	.00	.00	16.00	.00	.00	.00	.00	.00	380.00	396.00	
HORSES AND MULES ...												
FEED UNITS IN 1000'S	1.11	.39	.00	1.50	.00	.00	.00	.00	.00	2.50	4.00	
WT IN 1000 MET. TONS	2.78	.96	.00	3.74	.00	.00	.00	.00	.00	2.50	6.24	
FU/HEAD IN KILOGRAMS	277.50	96.35	.00	373.85	.00	.00	.00	.00	.00	626.15	1000.00	
TOTAL FEED UNITS ...	33.78	.39	.00	34.17	21.64	.00	21.64	7.65	.00	94.55	158.00	
TOTAL WEIGHT	84.09	.96	.00	85.05	36.06	.00	36.06	50.98	.00	94.55	266.64	

1971 ROUGHAGE REQUIREMENTS FOR NEW JERSEY

LIVESTOCK TYPE	IN STATE			OUT STATE			TOT MAY:IN STATE			ALFALFA			TOT ALF:			SILAGE			PASTURE:			TOTAL
	IN STATE	EXTRA	PAY	IN STATE	EXTRA	PAY	IN STATE	EXTRA	PAY	IN STATE	EXTRA	PAY	IN STATE	EXTRA	PAY	IN STATE	EXTRA	PAY	IN STATE	EXTRA	PAY	
MILK COWS																						
FEED UNITS IN 1000'S	15.11	.00	.00	15.11	75.93	.00	75.93	.00	.00	.00	.00	.00	75.93	.00	.00	13.83	.00	.00	111.13	.00	.00	216.00
WT IN 1000 MET. TONS	37.78	.00	.00	37.78	126.55	.00	126.55	.00	.00	.00	.00	.00	126.55	.00	.00	92.17	.00	.00	111.13	.00	.00	367.63
FU/HEAD IN KILOGRAMS	232.46	.00	.00	232.46	1168.15	.00	1168.15	.00	.00	.00	.00	.00	1168.15	.00	.00	212.70	.00	.00	1709.76	.00	.00	3323.08
OTHER DAIRY																						
FEED UNITS IN 1000'S	11.94	.00	.00	11.94	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	18.06	.00	.00	30.00
WT IN 1000 MET. TONS	29.85	.00	.00	29.85	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	18.06	.00	.00	47.91
FU/HEAD IN KILOGRAMS	746.25	.00	.00	746.25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1128.75	.00	.00	1875.00
CATTLE ON FEED																						
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
OTHER BEEF																						
FEED UNITS IN 1000'S	5.96	.00	.00	5.96	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	99.04	.00	.00	105.00
WT IN 1000 MET. TONS	14.54	.00	.00	14.54	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	99.04	.00	.00	113.58
FU/HEAD IN KILOGRAMS	135.53	.00	.00	135.53	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2250.83	.00	.00	2386.36
SHEEP ON FEED																						
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.06	.00	.00	.06
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.06	.00	.00	.06
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.06	.00	.00	.06
STOCK SHEEP																						
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.94	.00	.00	5.94
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.94	.00	.00	5.94
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	594.00	.00	.00	594.00
HORSES AND MULES																						
FEED UNITS IN 1000'S	3.60	.00	.00	3.60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	9.43	.00	.00	13.00
WT IN 1000 MET. TONS	9.00	.00	.00	9.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	9.40	.00	.00	18.40
FU/HEAD IN KILOGRAMS	450.00	.00	.00	450.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1175.00	.00	.00	1625.00
TOTAL FEED UNITS ...	36.61	.00	.00	36.61	75.93	.00	75.93	.00	.00	.00	.00	.00	75.93	.00	.00	13.83	.00	.00	243.63	.00	.00	370.00
TOTAL WEIGHT	91.17	.00	.00	91.17	126.55	.00	126.55	.00	.00	.00	.00	.00	126.55	.00	.00	92.17	.00	.00	243.63	.00	.00	553.52

1971 ROUGHAGE REQUIREMENTS FOR NEW MEXICO

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:			
MILK COWS													
FEED UNITS IN 1000'S	.00	.00	.00	.00	40.89	.00	.00	40.89	11.92	4.47	39.71	97.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	68.15	.00	.00	68.15	79.47	24.86	39.71	212.19	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1277.81	.00	.00	1277.81	372.52	139.84	1241.08	3031.25	
OTHER DAIRY													
FEED UNITS IN 1000'S	.00	.00	.00	.00	9.95	.00	.00	9.95	.00	.00	15.05	25.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	16.58	.00	.00	16.58	.00	.00	15.05	31.63	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	995.00	.00	.00	995.00	.00	.00	1505.00	2500.00	
CATTLE C. FEED													
FEED UNITS IN 1000'S	10.33	.00	.00	10.33	.00	.00	.00	.00	.00	.00	138.67	149.00	
WT IN 1000 MET. TONS	25.19	.00	.00	25.19	.00	.00	.00	.00	.00	.00	138.67	163.87	
FU/HEAD IN KILOGRAMS	62.61	.00	.00	62.61	.00	.00	.00	.00	.00	.00	840.42	903.03	
OTHER BEEF													
FEED UNITS IN 1000'S	.00	.00	.00	.00	303.10	.00	.00	303.10	.00	.00	2723.90	3027.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	505.17	.00	.00	505.17	.00	.00	2723.90	3229.07	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	200.20	.00	.00	200.20	.00	.00	1799.14	1999.34	
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.21	4.21	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.21	4.21	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	113.78	113.78	
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	388.79	388.79	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	388.79	388.79	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	551.48	551.48	
HORSES AND MULES													
FEED UNITS IN 1000'S	16.05	.00	.00	16.05	.00	.00	.00	.00	.00	.00	41.95	58.00	
WT IN 1000 MET. TONS	40.12	.00	.00	40.12	.00	.00	.00	.00	.00	.00	41.95	82.08	
FU/HEAD IN KILOGRAMS	291.82	.00	.00	291.82	.00	.00	.00	.00	.00	.00	762.73	1054.55	
TOTAL FEED UNITS ...	26.38	.00	.00	26.38	353.94	.00	.00	353.94	11.92	4.47	3352.28	3749.00	
TOTAL WEIGHT	65.32	.00	.00	65.32	589.90	.00	.00	589.90	79.47	24.86	3352.28	4111.83	

1971 ROUGHAGE REQUIREMENTS FOR NEW YORK

LIVESTOCK TYPE	IN STATE	EXTRA	HAY	ALFALFA			TOT ALF	CORN	SILAGE	SORGHUM	PASTURE	TOTAL
				OUT STATE	TOT HAY	IN STATE						
MILK COWS												
FEED UNITS IN 1000'S	59.40	124.05			193.45	1150.00	1150.00	193.18	.00	.00	1356.37	2893.00
WT IN 1000 MET. TONS	173.49	310.14			483.63	1916.67	1916.67	1287.85	.00	.00	1356.37	5944.52
FU/HEAD IN KILOGRAMS	73.51	131.41			204.93	1218.22	1218.22	204.64	.00	.00	1436.83	3064.62
OTHER DAIRY												
FEED UNITS IN 1000'S	326.84	.00	.00	.00	326.84	.00	.00	.00	.00	.00	494.16	821.00
WT IN 1000 MET. TONS	817.10	.00	.00	.00	817.10	.00	.00	.00	.00	.00	494.16	1311.26
FU/HEAD IN KILOGRAMS	1021.37	.00	.00	.00	1021.37	.00	.00	.00	.00	.00	1544.25	2565.62
CATTLE ON FEED												
FEED UNITS IN 1000'S	4.17	2.03		.00	6.25	.00	.00	.00	.00	.00	1.75	8.00
WT IN 1000 MET. TONS	10.17	5.07		.00	15.24	.00	.00	.00	.00	.00	1.75	16.99
FU/HEAD IN KILOGRAMS	379.09	189.09		.00	568.18	.00	.00	.00	.00	.00	159.09	727.27
OTHER BEEF												
FEED UNITS IN 1000'S	177.88	.00	.00	.00	177.88	.00	.00	.00	.00	.00	902.12	1080.00
WT IN 1000 MET. TONS	433.85	.00	.00	.00	433.85	.00	.00	.00	.00	.00	902.12	1335.97
FU/HEAD IN KILOGRAMS	343.40	.00	.00	.00	343.40	.00	.00	.00	.00	.00	1741.54	2084.94
SHEEP ON FEED												
FEED UNITS IN 1000'S	.42	.00	.00	.00	.42	.00	.00	.00	.00	.00	.04	.46
WT IN 1000 MET. TONS	1.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.04	1.04
FU/HEAD IN KILOGRAMS	32.31	.00	.00	.00	32.31	.00	.00	.00	.00	.00	3.08	35.38
STOCK SHEEP												
FEED UNITS IN 1000'S	1.80	.00	.00	.00	1.90	.00	.00	.00	.00	.00	40.74	42.54
WT IN 1000 MET. TONS	4.25	.00	.00	.00	4.29	.00	.00	.00	.00	.00	40.74	45.03
FU/HEAD IN KILOGRAMS	20.00	.00	.00	.00	20.00	.00	.00	.00	.00	.00	452.67	472.67
HORSES AND MULES												
FEED UNITS IN 1000'S	18.82	15.05		.00	33.87	.00	.00	.00	.00	.00	34.13	68.00
WT IN 1000 MET. TONS	47.05	37.62		.00	84.67	.00	.00	.00	.00	.00	34.13	118.81
FU/HEAD IN KILOGRAMS	400.43	320.21		.00	720.64	.00	.00	.00	.00	.00	726.17	1446.81
TOTAL FEED UNITS ...	599.33	141.18		.00	740.51	1150.00	1150.00	193.18	.00	.00	2829.31	4913.00
TOTAL WEIGHT	1486.96	352.83		.00	1839.79	1916.67	1916.67	1287.85	.00	.00	2829.31	7873.62

1971 ROUGHAGE REQUIREMENTS FOR NORTH CAROLINA

LIVESTOCK TYPE	HAY		ALFALFA		TOT ALF	SILAGE		SORGHUM	PASTURE	TOTAL
	IN STATE	EXTRA	TOT HAY	IN STATE	EXTRA	CORN	SORGHUM			
MILK COWS										
FEED UNITS IN 1000'S	85.92	.00	85.92	11.84	.00	42.27	7.64	298.33	446.00	
WT IN 1000 MET. TONS	214.81	.00	214.81	19.73	.00	281.77	42.46	298.33	857.10	
FU/HEAD IN KILOGRAMS	508.42	.00	508.42	70.05	.00	250.09	45.22	1765.28	2639.05	
OTHER DAIRY										
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	106.00	106.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	106.00	106.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	2078.43	2078.43	
CATTLE ON FEED										
FEED UNITS IN 1000'S	10.42	.00	10.42	.00	.00	.00	.00	9.58	20.00	
WT IN 1000 MET. TONS	25.41	.00	25.41	.00	.00	.00	.00	9.58	34.99	
FU/HEAD IN KILOGRAMS	212.65	.00	212.65	.00	.00	.00	.00	195.51	408.16	
OTHER BEEF										
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	1617.00	1617.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	1617.00	1617.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	2100.00	2100.00	
SHEEP ON FEED										
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.06	.06	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.06	.06	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP										
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	5.94	5.94	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	5.94	5.94	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	424.29	424.29	
HORSES AND MULES										
FEED UNITS IN 1000'S	48.70	.00	48.70	.00	.00	.00	.00	127.30	176.00	
WT IN 1000 MET. TONS	121.75	.00	121.75	.00	.00	.00	.00	127.30	249.05	
FU/HEAD IN KILOGRAMS	322.52	.00	322.52	.00	.00	.00	.00	843.05	1165.56	
TOTAL FEED UNITS ...	145.04	.00	145.04	11.84	.00	42.27	7.64	2164.21	2371.00	
TOTAL WEIGHT	361.97	.00	361.97	19.73	.00	281.77	42.46	2164.21	2870.14	

1971 ROUGHAGE REQUIREMENTS FOR NORTH OAKOTA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:IN STATE	CORN	SORGHUM	TOT ALF:IN STATE	CORN	SORGHUM	
CATTLE													
FEED UNITS IN 1000'S	.00	.00	.00	.00	153.43	61.37	.00	214.80	.55	101.56	364.00		
FL/HEAD IN KILOGRAMS	.00	.00	.00	.00	255.72	102.28	.00	358.00	3.08	101.56	776.53		
OTHER DAIRY													
FEED UNITS IN 1000'S	.00	.00	.00	.00	24.28	12.14	.00	36.42	.00	24.58	61.00		
FL/HEAD IN KILOGRAMS	.00	.00	.00	.00	40.47	20.23	.00	60.70	.00	24.58	85.28		
CATTLE ON FEED													
FEED UNITS IN 1000'S	11.99	5.99	.00	17.98	.00	.00	.00	.00	.00	5.02	23.00		
FL/HEAD IN KILOGRAMS	266.44	133.11	.00	399.56	.00	.00	.00	.00	.00	111.56	511.11		
OTHER BEEF													
FEED UNITS IN 1000'S	.00	322.72	.00	322.72	632.61	151.74	.00	784.35	.00	2733.93	3841.00		
FL/HEAD IN KILOGRAMS	.00	787.11	.00	787.11	1654.35	252.91	.00	1307.26	.00	2733.93	4828.30		
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	1.44	.00	.00	1.44	.00	.16	1.64		
FL/HEAD IN KILOGRAMS	.00	.00	.00	.00	2.47	.00	.00	2.47	.00	.16	2.63		
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	4.80	.00	4.80	6.49	.00	.00	6.40	.00	140.16	151.36		
FL/HEAD IN KILOGRAMS	.00	11.43	.00	11.43	10.67	.00	.00	10.67	.00	140.16	162.25		
HORSES AND MULES													
FEED UNITS IN 1000'S	16.60	13.28	.00	29.88	.00	.00	.00	.00	.00	30.12	60.00		
FL/HEAD IN KILOGRAMS	281.36	225.08	.00	506.44	.00	.00	.00	.00	.00	510.51	1016.95		
TOTAL FEED UNITS	28.59	346.79	.00	375.38	818.20	225.25	.00	1043.45	.55	3035.53	4502.00		
TOTAL WEIGHT	70.74	846.35	.00	917.09	1363.67	375.42	.00	1739.09	3.08	3035.53	6008.69		

1971 ROUGHAGE REQUIREMENTS FOR OHIO

LIVESTOCK TYPE	PAY			ALFALFA			SILAGE			PASTURE			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:				
MILK COWS													
FEED UNITS IN 1000'S	46.34	.00	.00	46.34	505.40	.00	505.40	72.56	.00	684.70	.00	1309.00	
WT IN 1000 MET. TONS	115.86	.00	.00	115.86	842.33	.00	842.33	483.72	.00	684.70	.00	2126.61	
FU/HEAD IN KILOGRAMS	104.37	.00	.00	104.37	1138.28	.00	1138.28	163.42	.00	1542.12	.00	2948.20	
OTHER DAIRY													
FEED UNITS IN 1000'S	129.38	.00	.00	129.38	.00	.00	.00	.00	.00	195.62	.00	325.00	
WT IN 1000 MET. TONS	323.45	.00	.00	323.45	.00	.00	.00	.00	.00	195.62	.00	519.07	
FU/HEAD IN KILOGRAMS	987.63	.00	.00	987.63	.00	.00	.00	.00	.00	1493.28	.00	2480.92	
CATTLE ON FEED													
FEED UNITS IN 1000'S	31.27	.00	.00	31.27	.00	.00	.00	.00	.00	26.73	.00	60.00	
WT IN 1000 MET. TONS	76.27	.00	.00	76.27	.00	.00	.00	.00	.00	26.73	.00	105.00	
FU/HEAD IN KILOGRAMS	101.53	.00	.00	101.53	.00	.00	.00	.00	.00	93.28	.00	194.81	
OTHER BEEF													
FEED UNITS IN 1000'S	258.26	.00	.00	258.26	.00	.00	.00	.00	.00	2521.74	.00	2780.00	
WT IN 1000 MET. TONS	629.91	.00	.00	629.91	.00	.00	.00	.00	.00	2521.74	.00	3151.65	
FU/HEAD IN KILOGRAMS	172.52	.00	.00	172.52	.00	.00	.00	.00	.00	1684.53	.00	1857.05	
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.21	.00	3.21	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.21	.00	3.21	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	28.66	.00	28.66	
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	296.79	.00	296.79	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	296.79	.00	296.79	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	516.16	.00	516.16	
HORSES AND MULES													
FEED UNITS IN 1000'S	24.07	.00	.00	24.07	.00	.00	.00	.00	.00	62.93	.00	87.00	
WT IN 1000 MET. TONS	60.17	.00	.00	60.17	.00	.00	.00	.00	.00	62.93	.00	123.11	
FU/HEAD IN KILOGRAMS	334.31	.00	.00	334.31	.00	.00	.00	.00	.00	874.03	.00	1208.33	
TOTAL FEED UNITS ...	489.33	.00	.00	489.33	505.40	.00	505.40	72.56	.00	3793.72	.00	4861.00	
TOTAL WEIGHT	1205.66	.00	.00	1205.66	842.33	.00	842.33	483.72	.00	3793.72	.00	6325.43	

1971 ROUGHAGE REQUIREMENTS FOR OKLAHOMA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:			TOTAL
	IN STATE	EXTRA	TOT	IN STATE	EXTRA	TOT	ALF	CORN	SORGHUM				
MILK COWS													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	135.30	17.53	12.41	155.76	321.00		
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	225.50	116.85	68.95	155.76	567.06		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	966.43	125.20	88.65	1112.58	2292.86		
OTHER DAIRY													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	34.24	.00	.00	51.76	86.00		
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	57.07	.00	.00	51.76	108.83		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	796.28	.00	.00	1233.72	2900.00		
CATTLE CATTLE FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	76.15	159.00		
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	76.15	278.22		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	322.67	673.73		
OTHER BEEF													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	413.42	.00	.00	10951.68	11626.00		
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	689.03	.00	.00	10951.68	12277.06		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	84.34	.00	.00	2234.12	2371.69		
SHEEP CATTLE FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.52	.52		
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.52	.52		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	20.80	20.80		
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	48.48	48.48		
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	48.48	48.48		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	499.79	499.79		
HORSES AND MULES													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	75.95	105.00		
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	75.95	148.58		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	872.99	1206.90		
TOTAL FEED UNITS	372.80	372.80	745.60	582.96	582.96	1165.92	582.96	17.53	12.41	11360.30	12346.00		
TOTAL WEIGHT	911.05	911.05	1822.10	971.60	971.60	1943.20	971.60	116.85	68.95	11360.30	13428.75		

1971 ROUGHAGE REQUIREMENTS FOR OREGON

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:	CORN	SORGHUM:				
MILK COWS															
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	149.23	278.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	149.23	421.82	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1554.44	2895.83	
OTHER DAIRY															
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	49.36	82.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	49.36	103.76	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1542.50	2562.50	
CATTLE ON FEED															
FEED UNITS IN 1000'S	35.96	2.25	.00	34.21	.00	.00	.00	.00	.00	.00	.00	.00	30.79	69.00	
WT IN 1000 MET. TONS	87.71	5.49	.00	93.20	.00	.00	.00	.00	.00	.00	.00	.00	30.79	123.99	
FU/HEAD IN KILOGRAMS	449.50	28.14	.00	477.64	.00	.00	.00	.00	.00	.00	.00	.00	384.86	862.50	
OTHER BEEF															
FEED UNITS IN 1000'S	184.73	.00	.00	184.73	375.58	.00	.00	.00	.00	.00	.00	.00	2841.69	3402.00	
WT IN 1000 MET. TONS	450.56	.00	.00	450.56	625.97	.00	.00	.00	.00	.00	.00	.00	2841.69	3918.22	
FU/HEAD IN KILOGRAMS	131.85	.00	.00	131.85	268.08	.00	.00	.00	.00	.00	.00	.00	2028.33	2428.27	
SHEEP ON FEED															
FEED UNITS IN 1000'S	2.73	.00	.00	2.73	.00	.00	.00	.00	.00	.00	.00	.00	.29	3.02	
WT IN 1000 MET. TONS	6.50	.00	.00	6.50	.00	.00	.00	.00	.00	.00	.00	.00	.29	6.79	
FU/HEAD IN KILOGRAMS	44.03	.00	.00	44.03	.00	.00	.00	.00	.00	.00	.00	.00	4.68	48.71	
STOCK SHEEP															
FEED UNITS IN 1000'S	11.80	.00	.00	11.80	.00	.00	.00	.00	.00	.00	.00	.00	267.18	278.98	
WT IN 1000 MET. TONS	28.10	.00	.00	28.10	.00	.00	.00	.00	.00	.00	.00	.00	267.18	295.28	
FU/HEAD IN KILOGRAMS	27.44	.00	.00	27.44	.00	.00	.00	.00	.00	.00	.00	.00	621.35	648.79	
HORSES AND MULES															
FEED UNITS IN 1000'S	17.99	14.39	.00	32.38	.00	.00	.00	.00	.00	.00	.00	.00	32.62	65.00	
WT IN 1000 MET. TONS	44.97	35.97	.00	80.95	.00	.00	.00	.00	.00	.00	.00	.00	32.62	113.57	
FU/HEAD IN KILOGRAMS	408.86	327.05	.00	735.91	.00	.00	.00	.00	.00	.00	.00	.00	741.36	1477.27	
TOTAL FEED UNITS	253.21	16.64	.00	269.85	525.40	.00	.00	.00	.00	11.59	.00	.00	3371.16	4178.00	
TOTAL WEIGHT	617.83	41.47	.00	659.30	875.67	.00	.00	.00	.00	77.29	.00	.00	3371.16	4983.42	

1971 ROUGHAGE REQUIREMENTS FOR PENNSYLVANIA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:			
MILK COWS													
FEED UNITS IN 1000'S	.00	301.46	.00	301.46	753.64	.00	.00	753.64	134.15	.00	598.75	1782.00	
WT IN 1000 MET. TONS	.00	753.65	.00	753.65	1256.07	.00	.00	1256.07	894.31	.00	598.75	3502.76	
FU/HEAD IN KILOGRAMS	.00	431.89	.00	431.89	1079.71	.00	.00	1079.71	192.19	.00	857.81	2561.60	
OTHER DAIRY													
FEED UNITS IN 1000'S	.00	45.23	.00	45.23	144.51	.00	.00	144.51	.00	.00	173.26	363.00	
WT IN 1000 MET. TONS	.00	113.08	.00	113.08	240.85	.00	.00	240.85	.00	.00	173.26	527.19	
FU/HEAD IN KILOGRAMS	.00	219.57	.00	219.57	701.50	.00	.00	701.50	.00	.00	841.07	1762.14	
CATTLE ON FEED													
FEED UNITS IN 1000'S	23.97	11.99	.00	35.96	.00	.00	.00	.00	.00	.00	10.04	46.00	
WT IN 1000 MET. TONS	58.46	29.24	.00	87.71	.00	.00	.00	.00	.00	.00	10.04	97.75	
FU/HEAD IN KILOGRAMS	260.54	130.33	.00	390.87	.00	.00	.00	.00	.00	.00	169.13	500.00	
OTHER BEEF													
FEED UNITS IN 1000'S	210.66	.00	.00	210.66	16.30	.00	.00	16.30	.00	.00	1151.04	1374.00	
WT IN 1000 MET. TONS	513.80	.00	.00	513.80	27.17	.00	.00	27.17	.00	.00	1151.04	1692.01	
FU/HEAD IN KILOGRAMS	245.23	.00	.00	245.23	18.98	.00	.00	18.98	.00	.00	1339.98	1604.19	
SHEEP ON FEED													
FEED UNITS IN 1000'S	.67	.00	.00	.67	.00	.00	.00	.00	.00	.00	.07	.74	
WT IN 1000 MET. TONS	1.60	.00	.00	1.60	.00	.00	.00	.00	.00	.00	.07	1.67	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP													
FEED UNITS IN 1000'S	2.89	.00	.00	2.89	.00	.00	.00	.00	.00	.00	65.37	68.26	
WT IN 1000 MET. TONS	6.88	.00	.00	6.88	.00	.00	.00	.00	.00	.00	65.37	72.25	
FU/HEAD IN KILOGRAMS	18.06	.00	.00	18.06	.00	.00	.00	.00	.00	.00	408.56	426.63	
HORSES AND MULES ...													
FEED UNITS IN 1000'S	15.22	12.17	.00	27.39	.00	.00	.00	.00	.00	.00	27.61	55.00	
WT IN 1000 MET. TONS	38.05	30.42	.00	68.48	.00	.00	.00	.00	.00	.00	27.61	96.09	
FU/HEAD IN KILOGRAMS	271.79	217.32	.00	489.11	.00	.00	.00	.00	.00	.00	493.04	982.14	
TOTAL FEED UNITS ...	253.41	370.85	.00	624.26	914.45	.00	.00	914.45	134.15	.00	2026.14	3699.00	
TOTAL WEIGHT	618.76	926.40	.00	1545.16	1524.09	.00	.00	1524.09	894.31	.00	2026.14	5989.72	

1971 ROUGHAGE REQUIREMENTS FOR RHODE ISLAND

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE			TOTAL
	IN STATE	EXTRA	TOT	IN STATE	EXTRA	TOT	ALF	CORN	SORGHUM	ALF	CORN	SORGHUM	
MILK COWS													
FEED UNITS IN 1000'S	2.71	.00		2.71	3.26		3.26	1.63	.00	11.39			19.00
WT IN 1000 MET. TONS	6.78	.00		6.78	5.44		5.44	10.89	.00	11.39			34.50
FU/HEAD IN KILOGRAMS	387.43	.00		387.43	466.29		466.29	233.36	.00	1627.21			2714.29
OTHER DAIRY													
FEED UNITS IN 1000'S	.00	.00		.00	.00		.00	.00	.00	4.00			4.00
WT IN 1000 MET. TONS	.00	.00		.00	.00		.00	.00	.00	4.00			4.00
FU/HEAD IN KILOGRAMS	.00	.00		.00	.00		.00	.00	.00	2000.00			2000.00
CATTLE ON FEED													
FEED UNITS IN 1000'S	.00	.00		.00	.00		.00	.00	.00	.00			.00
WT IN 1000 MET. TONS	.00	.00		.00	.00		.00	.00	.00	.00			.00
FU/HEAD IN KILOGRAMS	.00	.00		.00	.00		.00	.00	.00	.00			.00
OTHER BEEF													
FEED UNITS IN 1000'S	.00	.00		.00	.00		.00	.00	.00	5.00			5.00
WT IN 1000 MET. TONS	.00	.00		.00	.00		.00	.00	.00	5.00			5.00
FU/HEAD IN KILOGRAMS	.00	.00		.00	.00		.00	.00	.00	1666.67			1666.67
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00		.00	.00		.00	.00	.00	.00			.00
WT IN 1000 MET. TONS	.00	.00		.00	.00		.00	.00	.00	.00			.00
FU/HEAD IN KILOGRAMS	.00	.00		.00	.00		.00	.00	.00	.00			.00
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00		.00	.00		.00	.00	.00	.00			.00
WT IN 1000 MET. TONS	.00	.00		.00	.00		.00	.00	.00	.00			.00
FU/HEAD IN KILOGRAMS	.00	.00		.00	.00		.00	.00	.00	.00			.00
HORSES AND MULES													
FEED UNITS IN 1000'S	.28	.00		.28	.00		.00	.00	.00	.72			1.00
WT IN 1000 MET. TONS	.70	.00		.70	.00		.00	.00	.00	.72			1.42
FU/HEAD IN KILOGRAMS	280.00	.00		280.00	.00		.00	.00	.00	720.00			1000.00
TOTAL FEED UNITS ...	2.99	.00		2.99	3.26		3.26	1.63	.00	21.11			29.00
TOTAL WEIGHT	7.48	.00		7.48	5.44		5.44	10.89	.00	21.11			44.92

1971 ROUGHAGE REQUIREMENTS FOR SOUTH CAROLINA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:			
MILK COWS												
FEED UNITS IN 1000'S	76.39	.00	.00	76.39	.00	.00	.00	10.61	3.07	82.93	167.00	
WT IN 1000 MET. TONS	175.98	.00	.00	175.98	.00	.00	.00	70.76	17.06	82.93	346.72	
FU/HEAD IN KILOGRAMS	1117.30	.00	.00	1117.30	.00	.00	.00	168.48	48.74	1316.27	2650.79	
OTHER DAIRY												
FEED UNITS IN 1000'S	13.54	.00	.00	13.54	.00	.00	.00	.00	.00	20.46	34.00	
WT IN 1000 MET. TONS	33.85	.00	.00	33.85	.00	.00	.00	.00	.00	20.46	54.31	
FU/HEAD IN KILOGRAMS	902.67	.00	.00	902.67	.00	.00	.00	.00	.00	1364.00	2266.67	
CATTLE ON FEED												
FEED UNITS IN 1000'S	3.65	.00	.00	3.65	.00	.00	.00	.00	.00	3.35	7.00	
WT IN 1000 MET. TONS	8.92	.00	.00	8.92	.00	.00	.00	.00	.00	3.35	12.25	
FU/HEAD IN KILOGRAMS	202.72	.00	.00	202.72	.00	.00	.00	.00	.00	186.11	388.89	
OTHER BEEF												
FEED UNITS IN 1000'S	15.39	.00	.00	15.39	.00	.00	.00	.00	.00	1198.61	1214.00	
WT IN 1000 MET. TONS	37.53	.00	.00	37.53	.00	.00	.00	.00	.00	1198.61	1236.14	
FU/HEAD IN KILOGRAMS	28.49	.00	.00	28.49	.00	.00	.00	.00	.00	2219.66	2248.15	
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99	.99	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99	.99	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	990.00	990.00	
HORSES AND MULES ...												
FEED UNITS IN 1000'S	22.69	.00	.00	22.69	.00	.00	.00	.00	.00	59.31	82.00	
WT IN 1000 MET. TONS	56.72	.00	.00	56.72	.00	.00	.00	.00	.00	59.31	116.04	
FU/HEAD IN KILOGRAMS	324.14	.00	.00	324.14	.00	.00	.00	.00	.00	847.29	1171.43	
TOTAL FEED UNITS ...	125.66	.00	.00	125.66	.00	.00	.00	10.61	3.07	1365.66	1505.00	
TOTAL WEIGHT	312.98	.00	.00	312.98	.00	.00	.00	70.76	17.06	1365.66	1766.46	

1971 ROUGHAGE REQUIREMENTS FOR SOUTH DAKOTA

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF			SILAGE			SORGHUM			PASTURE			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY	IN STATE	EXTRA	OUT STATE	TOT ALF	CORN	SILAGE	SORGHUM	PASTURE	TOTAL	SORGHUM	PASTURE	TOTAL			
MILK COWS																			
FEED UNITS IN 1000'S	.00	.00	.00	.00	206.96	82.78	.00	289.74	140.92	3.68	56.66	491.00							
WT IN 1000 MET. TONS	.00	.00	.00	.00	344.93	137.97	.00	482.90	939.49	20.43	56.66	1499.48							
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1143.43	457.35	.00	1600.77	778.58	20.31	313.04	2712.71							
OTHER DAIRY																			
FEED UNITS IN 1000'S	.00	17.30	.00	17.30	38.22	1.81	.00	40.03	.00	4.78	33.89	96.00							
WT IN 1000 MET. TONS	.00	43.24	.00	43.24	63.70	3.02	.00	66.72	.00	26.56	33.89	170.42							
FU/HEAD IN KILOGRAMS	.00	368.04	.00	368.04	813.19	38.55	.00	851.75	.00	101.74	721.03	2042.55							
CATTLE ON FEED																			
FEED UNITS IN 1000'S	70.87	35.43	.00	106.30	.00	.00	.00	.00	.00	.00	29.70	136.00							
WT IN 1000 MET. TONS	172.85	86.41	.00	259.27	.00	.00	.00	.00	.00	.00	29.70	288.97							
FU/HEAD IN KILOGRAMS	209.06	104.51	.00	313.57	.00	.00	.00	.00	.00	.00	87.61	401.18							
OTHER BEEF																			
FEED UNITS IN 1000'S	.00	400.29	.00	400.29	1225.53	.00	.00	1225.53	.00	.00	5815.18	7441.00							
WT IN 1000 MET. TONS	.00	976.32	.00	976.32	2042.55	.00	.00	2042.55	.00	.00	5815.18	8834.05							
FU/HEAD IN KILOGRAMS	.00	97.77	.00	97.77	299.35	.00	.00	299.35	.00	.00	1420.42	1817.54							
SHEEP ON FEED																			
FEED UNITS IN 1000'S	.00	.00	.00	.00	5.24	.00	.00	5.24	.00	.00	.54	5.78							
WT IN 1000 MET. TONS	.00	.00	.00	.00	8.73	.00	.00	8.73	.00	.00	.54	9.27							
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	35.17	.00	.00	35.17	.00	.00	3.62	38.79							
STOCK SHEEP																			
FEED UNITS IN 1000'S	.00	.00	.00	.00	22.60	.00	.00	22.60	.00	.00	511.62	534.22							
WT IN 1000 MET. TONS	.00	.00	.00	.00	37.67	.00	.00	37.67	.00	.00	511.62	549.29							
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	21.48	.00	.00	21.48	.00	.00	486.33	597.81							
HORSES AND MULES																			
FEED UNITS IN 1000'S	17.16	13.72	.00	30.88	.00	.00	.00	.00	.00	.00	31.12	62.00							
WT IN 1000 MET. TONS	42.90	34.30	.00	77.20	.00	.00	.00	.00	.00	.00	31.12	108.32							
FU/HEAD IN KILOGRAMS	286.00	228.67	.00	514.67	.00	.00	.00	.00	.00	.00	518.67	1033.33							
TOTAL FEED UNITS	88.03	466.74	.00	554.77	1498.55	84.59	.00	1583.14	140.92	8.46	6478.71	8766.00							
TOTAL WEIGHT	215.75	1140.28	.00	1356.03	2497.58	140.99	.00	2638.57	939.49	46.99	6478.71	11459.79							

1971 ROUGHAGE REQUIREMENTS FOR TENNESSEE

LIVESTOCK TYPE	IN STATE	EXTRA	PAY	ALFALFA			TOT ALF	SILAGE		PASTURE	TOTAL
				IN STATE	EXTRA	OUT STATE		CORN	SORGHUM		
MILK COWS											
FEED UNITS IN 1000'S	128.94	.00	.00	76.75	.00	.00	76.75	36.52	2.87	242.91	488.00
WT IN 1000 MET. TONS	322.36	.00	.00	127.91	.00	.00	127.91	243.49	15.97	242.91	952.64
FU/HEAD IN KILOGRAMS	460.51	.00	.00	274.09	.00	.00	274.09	130.44	10.27	867.54	1742.86
OTHER DAIRY											
FEED UNITS IN 1000'S	54.94	.00	.00	.00	.00	.00	.00	.00	.00	83.06	138.00
WT IN 1000 MET. TONS	137.35	.00	.00	.00	.00	.00	.00	.00	.00	83.06	220.41
FU/HEAD IN KILOGRAMS	603.74	.00	.00	.00	.00	.00	.00	.00	.00	912.75	1516.48
CATTLE ON FEED											
FEED UNITS IN 1000'S	4.17	.00	.00	.00	.00	.00	.00	.00	.00	3.83	8.00
WT IN 1000 MET. TONS	10.17	.00	.00	.00	.00	.00	.00	.00	.00	3.83	14.00
FU/HEAD IN KILOGRAMS	143.79	.00	.00	.00	.00	.00	.00	.00	.00	132.07	275.86
OTHER BEEF											
FEED UNITS IN 1000'S	193.33	.00	.00	.00	.00	.00	.00	.00	.00	3401.67	3595.00
WT IN 1000 MET. TONS	471.53	.00	.00	.00	.00	.00	.00	.00	.00	3401.67	3873.20
FU/HEAD IN KILOGRAMS	97.49	.00	.00	.00	.00	.00	.00	.00	.00	1715.42	1812.91
SHEEP ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.15	.15
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.15	.15
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	13.85	13.85
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	13.85	13.85
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	337.80	337.80
HORSES AND MULES											
FEED UNITS IN 1000'S	39.84	.00	.00	.00	.00	.00	.00	.00	.00	104.16	144.00
WT IN 1000 MET. TONS	99.60	.00	.00	.00	.00	.00	.00	.00	.00	104.16	203.76
FU/HEAD IN KILOGRAMS	280.56	.00	.00	.00	.00	.00	.00	.00	.00	733.52	1014.08
TOTAL FEED UNITS ...	421.22	.00	.00	76.75	.00	.00	76.75	36.52	2.87	3849.63	4387.00
TOTAL WEIGHT	1041.01	.00	.00	127.91	.00	.00	127.91	243.49	15.97	3849.63	5278.01

1971 ROUGHAGE REQUIREMENTS FOR TEXAS

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:			TOTAL
	IN STATE	OUT STATE	TOT	HAY:IN STATE	EXTRA	OUT STATE	TOT	ALF:	CORN	SORGHUM:	:		
MILK COWS													
FEED UNITS IN 1000'S	23.46	.00	23.46	293.93	.00	.00	.00	293.93	34.84	19.76	381.02	753.00	
WT IN 1000 MET. TONS	58.66	.00	58.66	489.88	.00	.00	.00	489.88	232.24	109.77	381.02	1271.56	
FU/HEAD IN KILOGRAMS	66.09	.00	66.09	827.97	.00	.00	.00	827.97	98.13	55.66	1073.28	2121.13	
OTHER DAIRY													
FEED UNITS IN 1000'S	89.97	.00	89.97	.00	.00	.00	.00	.00	.00	.00	136.03	226.00	
WT IN 1000 MET. TONS	224.93	.00	224.93	.00	.00	.00	.00	.00	.00	.00	136.03	360.96	
FU/HEAD IN KILOGRAMS	848.77	.00	848.77	.00	.00	.00	.00	.00	.00	.00	1283.30	2132.08	
CATTLE ON FEED													
FEED UNITS IN 1000'S	498.17	.00	498.17	.00	.00	.00	.00	.00	.00	.00	457.83	956.00	
WT IN 1000 MET. TONS	1215.05	.00	1215.05	.00	.00	.00	.00	.00	.00	.00	457.83	1672.88	
FU/HEAD IN KILOGRAMS	336.60	.00	336.60	.00	.00	.00	.00	.00	.00	.00	309.34	645.95	
OTHER BEEF													
FEED UNITS IN 1000'S	322.57	.00	322.57	.00	.00	.00	.00	.00	.00	.00	22614.43	22937.00	
WT IN 1000 MET. TONS	786.77	.00	786.77	.00	.00	.00	.00	.00	.00	.00	22614.43	23401.19	
FU/HEAD IN KILOGRAMS	25.32	.00	25.32	.00	.00	.00	.00	.00	.00	.00	1775.21	1800.53	
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	27.80	27.80	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	27.80	27.80	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	99.64	99.64	
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2570.20	2570.20	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2570.20	2570.20	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	732.25	732.25	
HORSES AND MULES													
FEED UNITS IN 1000'S	67.79	.00	67.79	.00	.00	.00	.00	.00	.00	.00	177.21	245.00	
WT IN 1000 MET. TONS	169.48	.00	169.48	.00	.00	.00	.00	.00	.00	.00	177.21	346.69	
FU/HEAD IN KILOGRAMS	288.47	.00	288.47	.00	.00	.00	.00	.00	.00	.00	754.09	1042.55	
TOTAL FEED UNITS ...	1001.97	.00	1001.97	293.93	.00	.00	.00	293.93	34.84	19.76	26364.51	27715.00	
TOTAL WEIGHT	2454.87	.00	2454.87	489.88	.00	.00	.00	489.88	232.24	109.77	26364.51	29651.27	

1971 ROUGHAGE REQUIREMENTS FOR UTAH

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	TOT	IN STATE	EXTRA	TOT	CORN	ALF:	SORGHUM:			
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	46.70	.00	24.00	163.46	.00	89.54	277.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	77.83	.00	160.03	272.43	.00	89.54	522.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	583.75	.00	300.06	2043.25	.00	1119.19	3462.50	
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	22.29	.00	.00	66.88	.00	45.12	112.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	37.15	.00	.00	111.47	.00	45.12	156.59	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	495.33	.00	.00	1486.22	.00	1002.67	2488.89	
CATTLE ON FEED												
FEED UNITS IN 1000'S	25.01	12.51	37.52	.00	.00	.00	.00	.00	.00	10.48	48.00	
WT IN 1000 MET. TONS	61.00	30.51	91.51	.00	.00	.00	.00	.00	.00	10.48	101.99	
FU/HEAD IN KILOGRAMS	367.79	183.97	551.76	.00	.00	.00	.00	.00	.00	154.12	705.88	
OTHER BEEF												
FEED UNITS IN 1000'S	.00	1.29	1.29	.00	74.59	.00	.00	328.23	.00	1210.49	1540.00	
WT IN 1000 MET. TONS	.00	3.14	3.14	.00	124.31	.00	.00	547.04	.00	1210.49	1760.67	
FU/HEAD IN KILOGRAMS	.00	1.82	1.82	.00	105.50	.00	.00	464.25	.00	1712.14	2178.22	
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	4.97	.00	.52	5.49	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	8.28	.00	.52	8.80	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	62.12	.00	6.50	68.63	
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	21.47	.00	486.04	507.51	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	35.78	.00	486.04	521.82	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	23.11	.00	523.19	546.30	
HORSES AND MULES												
FEED UNITS IN 1000'S	9.95	7.97	17.93	.00	.00	.00	.00	.00	.00	14.07	36.00	
WT IN 1000 MET. TONS	24.90	19.92	44.83	.00	.00	.00	.00	.00	.00	18.07	62.90	
FU/HEAD IN KILOGRAMS	321.29	257.10	578.39	.00	.00	.00	.00	.00	.00	582.90	1161.29	
TOTAL FEED UNITS ...	34.97	21.77	56.74	.00	143.58	.00	24.00	585.01	.00	1860.25	2526.00	
TOTAL WEIGHT	85.90	53.58	139.48	.00	239.29	.00	160.03	975.01	.00	1860.25	3134.77	

1971 ROUGHAGE REQUIREMENTS FOR VERMONT

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF			SILAGE			PASTURE:			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF	CORN	SORGHUM:	CORN	SORGHUM:	PASTURE:	SORGHUM:			
MILK COWS																
FEED UNITS IN 1000'S	98.54	17.42	.00	115.96	113.90	.00	.00	29.39	.00	24.74	504.00					
WT IN 1000 MET. TONS	246.36	43.56	.00	289.91	189.83	.00	.00	195.95	.00	244.74	920.44					
FU/HEAD IN KILOGRAMS	505.34	89.35	.00	594.69	584.09	.00	.00	150.73	.00	1255.10	2584.62					
OTHER DAIRY																
FEED UNITS IN 1000'S	43.39	.00	.00	43.39	.00	.00	.00	.00	.00	65.61	109.00					
WT IN 1000 MET. TONS	108.47	.00	.00	108.47	.00	.00	.00	.00	.00	65.61	174.09					
FU/HEAD IN KILOGRAMS	748.10	.00	.00	748.10	.00	.00	.00	.00	.00	1131.21	1879.31					
CATTLE ON FEED																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					
OTHER BEEF																
FEED UNITS IN 1000'S	19.76	.00	.00	19.76	.00	.00	.00	.00	.00	100.24	120.00					
WT IN 1000 MET. TONS	48.20	.00	.00	48.20	.00	.00	.00	.00	.00	100.24	148.44					
FU/HEAD IN KILOGRAMS	229.77	.00	.00	229.77	.00	.00	.00	.00	.00	1165.58	1395.35					
SHEEP ON FEED																
FEED UNITS IN 1000'S	.02	.00	.00	.02	.00	.00	.00	.00	.00	.00	.02					
WT IN 1000 MET. TONS	.05	.00	.00	.05	.00	.00	.00	.00	.00	.00	.05					
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					
STOCK SHEEP																
FEED UNITS IN 1000'S	.08	.00	.00	.08	.00	.00	.00	.00	.00	1.90	1.98					
WT IN 1000 MET. TONS	.19	.00	.00	.19	.00	.00	.00	.00	.00	1.90	2.09					
FU/HEAD IN KILOGRAMS	13.33	.00	.00	13.33	.00	.00	.00	.00	.00	316.67	330.00					
HORSES AND MULES ...																
FEED UNITS IN 1000'S	2.77	2.21	.00	4.98	.00	.00	.00	.00	.00	5.02	10.00					
WT IN 1000 MET. TONS	6.93	5.53	.00	12.45	.00	.00	.00	.00	.00	5.02	17.47					
FU/HEAD IN KILOGRAMS	277.00	221.00	.00	498.00	.00	.00	.00	.00	.00	502.00	1000.00					
TOTAL FEED UNITS ...	164.56	19.63	.00	184.19	113.90	.00	113.90	29.39	.00	417.51	745.00					
TOTAL WEIGHT	410.19	49.08	.00	459.27	189.83	.00	189.83	195.95	.00	417.51	1262.56					

1971 ROUGHAGE REQUIREMENTS FOR VIRGINIA

LIVESTOCK TYPE	HAY		ALFALFA		SILAGE		PASTURE		TOTAL
	IN STATE	EXTRA	IN STATE	EXTRA	TOT ALF	CORN	SORGHUM	:	
MILK COWS									
FEED UNITS IN 1000'S	135.79	.00	135.79	.00	93.08	73.16	3.59	237.38	543.00
WT IN 1000 MET. TONS	339.48	.00	339.48	.00	155.13	487.71	19.96	237.38	1239.66
FU/HEAD IN KILOGRAMS	767.25	.00	767.25	.00	484.78	381.02	18.71	1236.36	2828.13
OTHER DAIRY									
FEED UNITS IN 1000'S	64.89	.00	64.89	.00	.00	.00	.00	98.11	163.00
WT IN 1000 MET. TONS	162.23	.00	162.23	.00	.00	.00	.00	98.11	260.34
FU/HEAD IN KILOGRAMS	913.94	.00	913.94	.00	.00	.00	.00	1381.83	2295.77
CATTLE ON FEED									
FEED UNITS IN 1000'S	5.73	.00	5.73	.00	.00	.00	.00	5.27	11.06
WT IN 1000 MET. TONS	13.98	.00	13.98	.00	.00	.00	.00	5.27	19.25
FU/HEAD IN KILOGRAMS	124.57	.00	124.57	.00	.00	.00	.00	114.57	239.13
OTHER BEEF									
FEED UNITS IN 1000'S	158.99	.00	158.99	.00	.00	.00	.00	3030.01	3189.00
WT IN 1000 MET. TONS	387.79	.00	387.79	.00	.00	.00	.00	3030.01	3417.80
FU/HEAD IN KILOGRAMS	129.58	.00	129.58	.00	.00	.00	.00	2469.44	2599.02
SHEEP ON FEED									
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	1.20	1.20
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	1.20	1.20
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP									
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	110.80	110.80
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	110.80	110.80
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	577.08	577.08
HORSES AND MULES									
FEED UNITS IN 1000'S	35.42	.00	35.42	.00	.00	.00	.00	92.58	128.00
WT IN 1000 MET. TONS	88.55	.00	88.55	.00	.00	.00	.00	92.58	181.13
FU/HEAD IN KILOGRAMS	407.13	.00	407.13	.00	.00	.00	.00	1064.14	1471.26
TOTAL FEED UNITS ...	400.83	.00	400.83	.00	93.08	73.16	3.59	3575.35	4146.00
TOTAL WEIGHT	992.02	.00	992.02	.00	155.13	487.71	19.96	3575.35	5230.17

1971 ROUGHAGE REQUIREMENTS FOR WASHINGTON

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF	SILAGE			PASTURE:	TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE		CORN	SORGHUM:			
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	225.38	90.93	315.11	22.75	.00	196.14	534.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	375.13	159.05	525.18	151.68	.00	196.14	873.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1271.64	508.64	1780.28	128.54	.00	1106.12	3016.95	
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.06	.00	.00	52.15	26.02	78.17	.00	.00	52.77	131.00	
WT IN 1000 MET. TONS	.00	.15	.00	.00	86.92	43.37	130.28	.00	.00	52.77	183.20	
FU/HEAD IN KILOGRAMS	.00	1.07	.00	.00	931.25	464.64	1395.89	.00	.00	942.32	2339.29	
CATTLE ON FEED												
FEED UNITS IN 1000'S	62.53	31.27	.00	.00	.00	.00	.00	.00	.00	26.20	120.00	
WT IN 1000 MET. TONS	152.51	76.27	.00	.00	.00	.00	.00	.00	.00	26.20	254.98	
FU/HEAD IN KILOGRAMS	443.46	221.77	.00	.00	.00	.00	.00	.00	.00	185.82	851.06	
OTHER BEEF												
FEED UNITS IN 1000'S	.00	77.13	.00	.00	361.57	.00	301.57	.00	.00	1452.30	1831.00	
WT IN 1000 MET. TONS	.00	188.13	.00	.00	502.62	.00	502.62	.00	.00	1452.30	2143.04	
FU/HEAD IN KILOGRAMS	.00	73.32	.00	.00	286.66	.00	286.66	.00	.00	1380.51	1740.49	
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.53	.00	.53	.00	.00	.06	.59	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.88	.00	.88	.00	.00	.06	.94	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	29.44	.00	29.44	.00	.00	3.33	32.78	
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	2.30	.00	2.30	.00	.00	52.11	54.41	
WT IN 1000 MET. TONS	.00	.00	.00	.00	3.83	.00	3.83	.00	.00	52.11	55.94	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	18.25	.00	18.25	.00	.00	413.57	431.83	
HORSES AND MULES ...												
FEED UNITS IN 1000'S	11.34	9.08	.00	.00	.00	.00	.00	.00	.00	20.58	41.00	
WT IN 1000 MET. TONS	28.35	22.70	.00	.00	.00	.00	.00	.00	.00	20.58	71.63	
FU/HEAD IN KILOGRAMS	306.49	245.41	.00	.00	.00	.00	.00	.00	.00	556.22	1108.11	
TOTAL FEED UNITS ...	73.87	117.54	.00	.00	581.63	116.05	697.68	22.75	.00	1800.15	2712.00	
TOTAL WEIGHT	180.86	287.25	.00	.00	969.38	193.42	1162.80	151.68	.00	1800.15	3582.74	

1971 ROUGHAGE REQUIREMENTS FOR WEST VIRGINIA

LIVESTOCK TYPE	MAY			JUNE			JULY			AUGUST			SEPTEMBER			OCTOBER			TOTAL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	IN STATE	EXTRA	OUT STATE	IN STATE	TOT	OUT STATE	IN STATE	EXTRA	OUT STATE	TOT	ALFalfa	IN STATE	EXTRA	OUT STATE	TOT	SILAGE	CORN																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
MILK COWS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
FEED UNITS IN 1000'S	.00	20.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	21.91	.00	52.27	

1971 ROUGHAGE REQUIREMENTS FOR WISCONSIN

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:IN STATE	EXTRA	OUT STATE	SORGHUM:		
MILK COWS												
FEED UNITS IN 1000'S												
WT IN 1000 MET. TONS												
FU/HEAD IN KILOGRAMS												
OTHER DAIRY												
FEED UNITS IN 1000'S												
WT IN 1000 MET. TONS												
FU/HEAD IN KILOGRAMS												
CATTLE ON FEED												
FEED UNITS IN 1000'S												
WT IN 1000 MET. TONS												
FU/HEAD IN KILOGRAMS												
OTHER BEEF												
FEED UNITS IN 1000'S												
WT IN 1000 MET. TONS												
FU/HEAD IN KILOGRAMS												
SHEEP ON FEED												
FEED UNITS IN 1000'S												
WT IN 1000 MET. TONS												
FU/HEAD IN KILOGRAMS												
STOCK SHEEP												
FEED UNITS IN 1000'S												
WT IN 1000 MET. TONS												
FU/HEAD IN KILOGRAMS												
HORSES AND MULES												
FEED UNITS IN 1000'S												
WT IN 1000 MET. TONS												
FU/HEAD IN KILOGRAMS												
TOTAL FEED UNITS ...												
TOTAL WEIGHT												

1971 ROUGHAGE REQUIREMENTS FOR WYOMING

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:	SILAGE		SORGHUM:	PASTURE:	TOTAL
	IN STATE	EXTRA	TOT	IN STATE	EXTRA	OUT STATE		CORN	SORGHUM			
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	21.50	11.05	.00	.00	18.45	51.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	35.83	73.66	.00	.00	18.45	127.94
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	1343.75	690.56	.00	.00	1153.19	3187.50
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	3.98	.00	.00	.00	6.02	10.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	6.63	.00	.00	.00	6.02	12.65
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	995.00	.00	.00	.00	1505.00	2500.00
CATTLE ON FEED												
FEED UNITS IN 1000'S	6.77	.00	6.77	.00	.00	.00	.00	.00	.00	.00	6.23	13.00
WT IN 1000 MET. TONS	16.51	.00	16.51	.00	.00	.00	.00	.00	.00	.00	6.23	22.74
FU/HEAD IN KILOGRAMS	193.43	.00	193.43	.00	.00	.00	.00	.00	.00	.00	178.00	371.43
OTHER BEEF												
FEED UNITS IN 1000'S	168.57	.00	168.57	.00	.00	.00	381.53	.00	.00	.00	2789.90	3340.00
WT IN 1000 MET. TONS	411.15	.00	411.15	.00	.00	.00	635.88	.00	.00	.00	2789.90	3836.93
FU/HEAD IN KILOGRAMS	112.38	.00	112.38	.00	.00	.00	254.35	.00	.00	.00	1859.93	2226.67
SHEEP ON FEED												
FEED UNITS IN 1000'S	11.72	.00	11.72	.00	.00	.00	.00	.00	.00	.00	1.22	12.94
WT IN 1000 MET. TONS	27.90	.00	27.90	.00	.00	.00	.00	.00	.00	.00	1.22	29.12
FU/HEAD IN KILOGRAMS	78.13	.00	78.13	.00	.00	.00	.00	.00	.00	.00	8.13	86.27
STOCK SHEEP												
FEED UNITS IN 1000'S	7.56	.00	7.56	.00	.00	.00	.00	.00	.00	.00	1188.50	1196.06
WT IN 1000 MET. TONS	17.99	.00	17.99	.00	.00	.00	.00	.00	.00	.00	1188.50	1206.50
FU/HEAD IN KILOGRAMS	4.50	.00	4.50	.00	.00	.00	.00	.00	.00	.00	707.86	712.36
HORSES AND MULES												
FEED UNITS IN 1000'S	16.33	.00	16.33	.00	.00	.00	.00	.00	.00	.00	42.67	59.00
WT IN 1000 MET. TONS	40.82	.00	40.82	.00	.00	.00	.00	.00	.00	.00	42.67	83.50
FU/HEAD IN KILOGRAMS	320.20	.00	320.20	.00	.00	.00	.00	.00	.00	.00	836.67	1156.86
TOTAL FEED UNITS ...	210.95	.00	210.95	.00	.00	.00	407.01	11.05	.00	.00	4052.99	4682.00
TOTAL WEIGHT	514.38	.00	514.38	.00	.00	.00	678.35	73.66	.00	.00	4052.99	5319.38

1971 ROUGHAGE REQUIREMENTS FOR UNITED STATES

LIVESTOCK TYPE	HAY		ALFALFA		SILAGE		TOTAL
	IN STATE	OUT STATE	IN STATE	OUT STATE	CORN	SORGHUM	
MILK COWS							
FEED UNITS IN 1000'S							
WT IN 1000 MET. TONS	2362.56	.00	13765.04	.00	2501.40	158.51	33528.00
AVE. FU/HEAD IN KG.	5956.24	.00	22975.07	.00	16675.99	880.66	61188.45
	209.17	.00	1210.28	.00	219.61	13.92	2943.63
OTHER DAIRY							
FEED UNITS IN 1000'S	1188.19	.00	2409.43	.00	16.16	17.96	8573.00
WT IN 1000 MET. TONS	2970.48	.00	4015.72	.00	107.73	99.79	12134.97
AVE. FU/HEAD IN KG.	322.44	.00	653.85	.00	4.39	4.87	2326.46
CATTLE ON FEED							
FEED UNITS IN 1000'S	2764.75	.00	.00	.00	41.59	81.77	6046.00
WT IN 1000 MET. TONS	6743.30	.00	.00	.00	231.05	327.08	10459.31
AVE. FU/HEAD IN KG.	251.20	.00	.00	.00	3.78	7.43	549.34
OTHER BEEF							
FEED UNITS IN 1000'S	6535.69	.00	14281.48	.00	.00	.00	180058.00
WT IN 1000 MET. TONS	15940.70	.00	23802.47	.00	.00	.00	198984.00
AVE. FU/HEAD IN KG.	74.44	.00	162.66	.00	.00	.00	2050.80
SHEEP ON FEED							
FEED UNITS IN 1000'S	18.88	.00	29.69	.00	.00	.00	104.69
WT IN 1000 MET. TONS	44.95	.00	49.48	.00	.00	.00	150.56
AVE. FU/HEAD IN KG.	7.47	.00	11.74	.00	.00	.00	41.40
STOCK SHEEP							
FEED UNITS IN 1000'S	43.23	.00	140.14	.00	.00	.00	9678.31
WT IN 1000 MET. TONS	102.92	.00	233.57	.00	.00	.00	9831.43
AVE. FU/HEAD IN KG.	2.62	.00	9.49	.00	.00	.00	586.10
HORSES AND MULES ...							
FEED UNITS IN 1000'S	1092.23	.00	.00	.00	.00	.00	3263.00
WT IN 1000 MET. TONS	2730.58	.00	.00	.00	.00	.00	4901.35
AVE. FU/HEAD IN KG.	386.36	.00	.00	.00	.00	.00	1154.23
TOTAL FEED UNITS ...	14025.47	.00	30645.79	.00	2559.15	258.24	241251.00
TOTAL WEIGHT	34489.17	.00	51076.31	.00	17014.77	1307.46	297650.08

1972 ROUSHAGE REQUIREMENTS FOR ALABAMA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:			
MILK COWS												
FEED UNITS IN 1000'S	30.29	.00	.00	81.29	3.67	.00	.00	8.98	7.22	122.84	223.00	
WT IN 1000 MET. TONS	206.72	.00	.00	206.72	6.12	.00	.00	59.87	40.10	122.84	429.65	
FU/HEAD IN KILOGRAMS	669.07	.00	.00	669.07	30.60	.00	.00	74.84	60.15	1023.58	1856.33	
OTHER DAIRY												
FEED UNITS IN 1000'S	21.48	.00	.00	21.48	.00	.00	.00	.00	.00	41.52	63.00	
WT IN 1000 MET. TONS	53.70	.00	.00	53.70	.00	.00	.00	.00	.00	41.52	95.22	
FU/HEAD IN KILOGRAMS	565.26	.00	.00	565.26	.00	.00	.00	.00	.00	1092.63	1657.89	
CATTLE C ¹ FEED												
FEED UNITS IN 1000'S	9.85	.00	.00	9.85	.00	.00	.00	.00	.00	10.15	20.00	
WT IN 1000 MET. TONS	24.02	.00	.00	24.02	.00	.00	.00	.00	.00	10.15	34.17	
FU/HEAD IN KILOGRAMS	289.71	.00	.00	289.71	.00	.00	.00	.00	.00	296.53	588.24	
OTHER BEEF												
FEED UNITS IN 1000'S	120.30	.00	.00	120.30	.00	.00	.00	.00	.00	2666.70	2787.00	
WT IN 1000 MET. TONS	293.41	.00	.00	293.41	.00	.00	.00	.00	.00	2666.70	2960.11	
FU/HEAD IN KILOGRAMS	63.58	.00	.00	63.58	.00	.00	.00	.00	.00	1405.46	1473.04	
SHEEP C ¹ FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.02	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.02	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.96	1.98	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.96	1.96	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	396.00	396.00	
HORSES AND MULES												
FEED UNITS IN 1000'S	17.02	.00	.00	17.02	.00	.00	.00	.00	.00	49.98	67.00	
WT IN 1000 MET. TONS	42.55	.00	.00	42.55	.00	.00	.00	.00	.00	49.98	92.53	
FU/HEAD IN KILOGRAMS	175.46	.00	.00	175.46	.00	.00	.00	.00	.00	515.26	690.72	
TOTAL FEED UNITS	248.93	.00	.00	248.93	3.67	.00	.00	8.98	7.22	2893.20	3162.00	
TOTAL WEIGHT	614.40	.00	.00	614.40	6.12	.00	.00	59.87	40.10	2893.20	3613.69	

1972 ROUGHAGE REQUIREMENTS FOR ARIZONA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:	:	
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	60.62	24.25	.00	84.87	6.26	4.41	65.46	161.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	101.03	40.42	.00	141.45	41.73	24.49	65.46	273.13
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1212.40	485.00	.00	1697.40	125.19	88.16	1309.25	3220.00
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	10.57	5.29	.00	15.86	.00	.00	15.14	31.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	17.62	8.82	.00	26.43	.00	.00	15.14	41.57
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	813.08	406.92	.00	1220.00	.00	.00	1164.62	2384.62
CATTLE ON FEED												
FEED UNITS IN 1000'S	9.93	.00	.00	9.93	.00	.00	.00	.00	.00	.00	506.07	516.00
WT IN 1000 MET. TONS	24.21	.00	.00	24.21	.00	.00	.00	.00	.00	.00	506.07	530.28
FU/HEAD IN KILOGRAMS	18.42	.00	.00	18.42	.00	.00	.00	.00	.00	.00	938.91	957.33
OTHER BEEF												
FEED UNITS IN 1000'S	.00	.00	.00	.00	234.79	139.26	.00	374.05	.00	.00	1183.95	1558.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	391.32	232.10	.00	623.42	.00	.00	1183.95	1807.37
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	190.58	113.04	.00	303.61	.00	.00	961.00	1264.61
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	1.61	.00	.00	1.61	.00	.00	.21	1.82
WT IN 1000 MET. TONS	.00	.00	.00	.00	2.68	.00	.00	2.68	.00	.00	.21	2.89
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	17.69	.00	.00	17.69	.00	.00	2.31	20.00
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	7.78	.00	.00	7.78	.00	.00	202.40	210.18
WT IN 1000 MET. TONS	.00	.00	.00	.00	12.97	.00	.00	12.97	.00	.00	202.40	215.37
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	18.88	.00	.00	18.88	.00	.00	491.26	510.15
HORSES AND MULES ...												
FEED UNITS IN 1000'S	13.72	.00	.00	13.72	.00	.00	.00	.00	.00	.00	40.28	54.00
WT IN 1000 MET. TONS	34.30	.00	.00	34.30	.00	.00	.00	.00	.00	.00	40.28	74.58
FU/HEAD IN KILOGRAMS	258.87	.00	.00	258.87	.00	.00	.00	.00	.00	.00	760.00	1018.67
TOTAL FEED UNITS ...	23.65	.00	.00	23.65	315.37	168.80	.00	484.17	6.26	4.41	2013.52	2532.00
TOTAL WEIGHT	58.51	.00	.00	58.51	525.62	281.33	.00	806.95	41.73	24.49	2013.52	2945.20

1972 ROUGHAGE REQUIREMENTS FOR ARKANSAS

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE: TOTAL		
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF: CORN	SORGHUM:	:	:	:	:
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	7.15	120.82	207.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	39.74	120.82	297.72	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	74.51	1258.52	2156.25	
OTHER DAIRY												
FEED UNITS IN 1000'S	6.82	.00	.00	6.82	.00	.00	.00	.00	.00	36.90	56.00	
WT IN 1000 MET. TONS	17.04	.00	.00	17.04	.00	.00	.00	.00	.00	36.90	74.41	
FU/HEAD IN KILOGRAMS	252.52	.00	.00	252.52	.00	.00	.00	.00	.00	1366.67	2074.07	
CATTLE ON FEED												
FEED UNITS IN 1000'S	6.89	.00	.00	6.89	.00	.00	.00	.00	.00	7.11	14.00	
WT IN 1000 MET. TONS	16.80	.00	.00	16.80	.00	.00	.00	.00	.00	7.11	23.91	
FU/HEAD IN KILOGRAMS	405.29	.00	.00	405.29	.00	.00	.00	.00	.00	418.24	823.53	
OTHER BEEF												
FEED UNITS IN 1000'S	260.92	.00	.00	260.92	.00	.00	.00	.00	.00	3132.08	3393.00	
WT IN 1000 MET. TONS	636.40	.00	.00	636.40	.00	.00	.00	.00	.00	3132.08	3768.48	
FU/HEAD IN KILOGRAMS	144.32	.00	.00	144.32	.00	.00	.00	.00	.00	1732.34	1876.66	
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.03	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.03	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.97	2.97	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.97	2.97	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	424.29	424.29	
HORSES AND MULES ...												
FEED UNITS IN 1000'S	19.30	.00	.00	19.30	.00	.00	.00	.00	.00	56.70	76.00	
WT IN 1000 MET. TONS	48.25	.00	.00	48.25	.00	.00	.00	.00	.00	56.70	104.95	
FU/HEAD IN KILOGRAMS	241.25	.00	.00	241.25	.00	.00	.00	.00	.00	708.75	950.00	
TOTAL FEED UNITS ...	293.93	.00	.00	293.93	.00	.00	.00	.00	7.15	3356.60	3749.00	
TOTAL WEIGHT	718.50	.00	.00	718.50	.00	.00	.00	.00	39.74	3356.60	4272.47	

1972 ROUGHAGE REQUIREMENTS FOR CALIFORNIA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:			
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	983.04	393.22	.00	1376.26	65.67	7.45	1161.62	2611.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	1638.40	655.37	.00	2293.77	437.81	41.37	1161.62	3934.57
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1283.34	513.34	.00	1796.68	85.73	9.72	1516.48	3468.62
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	227.79	113.89	.00	341.68	.00	.00	326.32	668.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	379.65	189.82	.00	569.47	.00	.00	326.32	895.79
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	914.82	457.39	.00	1372.21	.00	.00	1310.52	2682.73
CATTLE ON FEED												
FEED UNITS IN 1000'S	241.58	.00	.00	241.58	.00	.00	.00	.00	.00	.00	871.42	1113.00
WT IN 1000 MET. TONS	589.23	.00	.00	589.23	.00	.00	.00	.00	.00	.00	871.42	1460.64
FU/HEAD IN KILOGRAMS	231.18	.00	.00	231.18	.00	.00	.00	.00	.00	.00	833.89	1065.07
OTHER BEEF												
FEED UNITS IN 1000'S	.00	.00	.00	.00	824.63	251.17	.00	1075.80	.00	.00	4396.20	5472.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	1374.32	418.62	.00	1793.01	.00	.00	4396.20	6189.20
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	226.11	68.87	.00	294.98	.00	.00	1205.43	1500.41
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	3.75	.00	.00	3.75	.00	.00	.50	4.25
WT IN 1000 MET. TONS	.00	.00	.00	.00	6.25	.00	.00	6.25	.00	.00	.50	6.75
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	36.76	.00	.00	36.76	.00	.00	4.90	41.67
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	18.12	.00	.00	18.12	.00	.00	471.63	489.75
WT IN 1000 MET. TONS	.00	.00	.00	.00	30.20	.00	.00	30.20	.00	.00	471.63	501.83
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	17.92	.00	.00	17.92	.00	.00	466.50	484.42
HORSES AND MULES												
FEED UNITS IN 1000'S	26.67	.00	.00	26.67	.00	.00	.00	.00	.00	.00	78.33	105.00
WT IN 1000 MET. TONS	66.68	.00	.00	66.68	.00	.00	.00	.00	.00	.00	78.33	145.01
FU/HEAD IN KILOGRAMS	346.36	.00	.00	346.36	.00	.00	.00	.00	.00	.00	1017.27	1363.64
TOTAL FEED UNITS	268.25	.00	.00	268.25	2057.33	758.28	.00	2815.61	65.67	7.45	7306.02	10463.00
TOTAL WEIGHT	655.90	.00	.00	655.90	3428.88	1263.81	.00	4692.69	437.81	41.37	7306.02	13133.79

1972 ROUGHAGE REQUIREMENTS FOR COLORADO

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE		PASTURE		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY	IN STATE	EXTRA	OUT STATE	TOT ALF	CORN	SORGHUM	
MILK COWS											
FEED UNITS IN 1000'S	.00	.00	.00	.00	91.49	.00	.00	91.49	79.00	.00	72.51
WT IN 1000 MET. TONS	.00	.00	.00	.00	152.48	.00	.00	152.48	526.67	.00	72.51
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1158.10	.00	.00	1158.10	1000.00	.00	917.65
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	.00	.00	.00	25.92	.00	.00	25.92	9.33	.00	40.75
WT IN 1000 MET. TONS	.00	.00	.00	.00	43.20	.00	.00	43.20	62.20	.00	40.75
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	960.00	.00	.00	960.00	345.56	.00	1509.26
CATTLE ON FEED											
FEED UNITS IN 1000'S	120.17	.00	.00	120.17	.00	.00	.00	.00	12.98	7.35	103.50
WT IN 1000 MET. TONS	293.10	.00	.00	293.10	.00	.00	.00	.00	72.11	29.39	103.50
FU/HEAD IN KILOGRAMS	122.25	.00	.00	122.25	.00	.00	.00	.00	13.20	7.47	105.29
OTHER BEEF											
FEED UNITS IN 1000'S	105.32	.00	.00	105.32	709.27	.00	.00	709.27	.00	.00	5642.41
WT IN 1000 MET. TONS	256.89	.00	.00	256.89	1182.12	.00	.00	1182.12	.00	.00	5642.41
FU/HEAD IN KILOGRAMS	30.06	.00	.00	30.06	202.42	.00	.00	202.42	.00	.00	1610.28
SHEEP ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.84
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.84
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	7.68
STOCK SHEEP											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	443.16
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	443.16
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	615.50
HORSES AND MULES											
FEED UNITS IN 1000'S	24.13	.00	.00	24.13	.00	.00	.00	.00	.00	.00	70.27
WT IN 1000 MET. TONS	60.33	.00	.00	60.33	.00	.00	.00	.00	.00	.00	70.27
FU/HEAD IN KILOGRAMS	354.85	.00	.00	354.85	.00	.00	.00	.00	.00	.00	1042.21
TOTAL FEED UNITS	249.62	.00	.00	249.62	826.68	.00	.00	826.68	101.31	7.35	6377.04
TOTAL WEIGHT	610.31	.00	.00	610.31	1377.80	.00	.00	1377.80	660.98	29.39	6377.04

1972 ROUGHAGE REQUIREMENTS FOR CONNECTICUT

LIVESTOCK TYPE	IN STATE	HAY		TOT HAY:	ALFALFA		TOT ALF:	SILAGE		SORGHUM:	PASTURE:	TOTAL
		EXTRA	OUT STATE		EXTRA	OUT STATE		CCRN	SORGHUM:			
MILK COWS												
FEED UNITS IN 1000'S	28.56	.00	.00	23.56	.00	.00	29.80	22.45	.00	.00	74.19	155.00
WT IN 1000 MET. TONS	71.40	.00	.00	71.40	.00	.00	49.67	149.69	.00	.00	74.19	344.94
FU/HEAD IN KILOGRAMS	492.38	.00	.00	492.38	.00	.00	513.83	387.13	.00	.00	1279.08	2672.41
OTHER DAIRY												
FEED UNITS IN 1000'S	5.53	.00	.00	5.53	.00	.00	.00	.00	.00	.00	35.47	41.00
WT IN 1000 MET. TONS	13.83	.00	.00	13.83	.00	.00	.00	.00	.00	.00	35.47	49.30
FU/HEAD IN KILOGRAMS	263.33	.00	.00	263.33	.00	.00	.00	.00	.00	.00	1689.05	1952.38
CATTLE ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
OTHER BEEF												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	49.00	49.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	49.00	49.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1484.85	1484.85
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.02
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.02
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.98	1.98
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.98	1.98
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	396.00	396.00
HORSES AND MULES												
FEED UNITS IN 1000'S	1.02	.00	.00	1.02	.00	.00	.00	.00	.00	.00	2.98	4.00
WT IN 1000 MET. TONS	2.55	.00	.00	2.55	.00	.00	.00	.00	.00	.00	2.98	5.53
FU/HEAD IN KILOGRAMS	255.00	.00	.00	255.00	.00	.00	.00	.00	.00	.00	745.00	1000.00
TOTAL FEED UNITS ...	35.11	.00	.00	35.11	29.80	.00	29.80	22.45	.00	.00	163.64	251.00
TOTAL WEIGHT	87.77	.00	.00	87.77	49.67	.00	49.67	149.69	.00	.00	163.64	450.77

1972 ROUGHAGE REQUIREMENTS FOR DELAWARE

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:	:	:		
MILK COWS													
FEED UNITS IN 1000'S	6.99	.00	.00	6.99	.00	.00	6.94	3.73	.00	19.34	.00	37.00	
WT IN 1000 MET. TONS	17.47	.00	.00	17.47	.00	.00	11.57	24.86	.00	19.34	.00	73.24	
FU/HEAD IN KILOGRAMS	537.54	.00	.00	537.54	.00	.00	534.00	286.85	.00	1487.77	.00	2846.15	
OTHER DAIRY													
FEED UNITS IN 1000'S	1.50	.00	.00	1.50	.00	.00	.00	.00	.00	3.50	.00	5.00	
WT IN 1000 MET. TONS	3.76	.00	.00	3.76	.00	.00	.00	.00	.00	3.50	.00	7.26	
FU/HEAD IN KILOGRAMS	752.00	.00	.00	752.00	.00	.00	.00	.00	.00	1748.00	.00	2500.00	
CATTLE ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
OTHER BEEF													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	36.00	.00	36.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	36.00	.00	36.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	2250.00	.00	2250.00	
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.01	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.01	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99	.00	.99	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99	.00	.99	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	495.00	.00	495.00	
HORSES AND MULES													
FEED UNITS IN 1000'S	.76	.00	.00	.76	.00	.00	.00	.00	.00	2.24	.00	3.00	
WT IN 1000 MET. TONS	1.90	.00	.00	1.90	.00	.00	.00	.00	.00	2.24	.00	4.14	
FU/HEAD IN KILOGRAMS	253.33	.00	.00	253.33	.00	.00	.00	.00	.00	746.67	.00	1000.00	
TOTAL FEED UNITS	9.25	.00	.00	9.25	6.94	.00	6.94	3.73	.00	62.08	.00	82.00	
TOTAL WEIGHT	23.13	.00	.00	23.13	11.57	.00	11.57	24.86	.00	62.08	.00	121.64	

1972 ROUGHAGE REQUIREMENTS FOR FLORIDA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:			
MILK COWS												
FEED UNITS IN 1000'S	69.45	.00	.00	69.45	.00	.00	.00	3.46	.00	208.09	261.00	
WT IN 1000 MET. TONS	173.64	.00	.00	173.64	.00	.00	.00	23.04	.00	208.09	404.77	
FU/HEAD IN KILOGRAMS	352.56	.00	.00	352.56	.00	.00	.00	17.54	.00	1056.29	1426.40	
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	42.00	42.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	42.00	42.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1354.84	1354.84	
CATTLE ON FEED												
FEED UNITS IN 1000'S	17.73	.00	.00	17.73	.00	.00	.00	.00	.00	18.27	36.00	
WT IN 1000 MET. TONS	43.24	.00	.00	43.24	.00	.00	.00	.00	.00	18.27	61.51	
FU/HEAD IN KILOGRAMS	311.05	.00	.00	311.05	.00	.00	.00	.00	.00	320.53	631.58	
OTHER BEEF												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	3522.00	3522.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	3522.00	3522.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1851.74	1851.74	
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.03	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.03	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.97	2.97	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.97	2.97	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	594.00	594.00	
HORSES AND MULES												
FEED UNITS IN 1000'S	6.60	.00	.00	6.60	.00	.00	.00	.00	.00	19.40	26.00	
WT IN 1000 MET. TONS	16.50	.00	.00	16.50	.00	.00	.00	.00	.00	19.40	35.90	
FU/HEAD IN KILOGRAMS	244.44	.00	.00	244.44	.00	.00	.00	.00	.00	718.52	962.96	
TOTAL FEED UNITS ...	93.78	.00	.00	93.78	.00	.00	.00	3.46	.00	3812.76	3910.00	
TOTAL WEIGHT	233.38	.00	.00	233.38	.00	.00	.00	23.04	.00	3812.76	4069.18	

1972 ROUGHAGE REQUIREMENTS FOR GEORGIA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT	HAY:IN STATE	EXTRA	OUT STATE	TOT	ALF:	CORN	SORGHUM:	:	
MILK COWS													
FEED UNITS IN 1000'S	120.85	.00	.00	120.85	4.90	.00	.00	4.90	25.47	14.86	167.92	334.00	
WT IN 1000 MET. TONS	302.13	.00	.00	302.13	8.16	.00	.00	8.16	169.83	82.55	167.92	730.59	
FU/HEAD IN KILOGRAMS	827.77	.00	.00	827.77	33.53	.00	.00	33.53	174.48	101.77	1150.11	2227.67	
OTHER DAIRY													
FEED UNITS IN 1000'S	32.05	.00	.00	32.05	.00	.00	.00	.00	.00	.00	61.95	94.00	
WT IN 1000 MET. TONS	80.12	.00	.00	80.12	.00	.00	.00	.00	.00	.00	61.95	142.08	
FU/HEAD IN KILOGRAMS	763.10	.00	.00	763.10	.00	.00	.00	.00	.00	.00	1475.00	2238.10	
CATTLE ON FEED													
FEED UNITS IN 1000'S	10.83	.00	.00	10.83	.00	.00	.00	.00	.00	.00	11.17	22.00	
WT IN 1000 MET. TONS	26.41	.00	.00	26.41	.00	.00	.00	.00	.00	.00	11.17	37.58	
FU/HEAD IN KILOGRAMS	174.68	.00	.00	174.68	.00	.00	.00	.00	.00	.00	180.16	354.84	
OTHER BEEF													
FEED UNITS IN 1000'S	99.06	.00	.00	99.06	.00	.00	.00	.00	.00	.00	3322.94	3422.00	
WT IN 1000 MET. TONS	241.61	.00	.00	241.61	.00	.00	.00	.00	.00	.00	3322.94	3564.55	
FU/HEAD IN KILOGRAMS	53.43	.00	.00	53.43	.00	.00	.00	.00	.00	.00	1792.31	1845.74	
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99	.99	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99	.99	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	198.00	198.00	
HORSES AND MULES													
FEED UNITS IN 1000'S	18.03	.00	.00	18.03	.00	.00	.00	.00	.00	.00	52.97	71.00	
WT IN 1000 MET. TONS	45.07	.00	.00	45.07	.00	.00	.00	.00	.00	.00	52.97	98.05	
FU/HEAD IN KILOGRAMS	250.42	.00	.00	250.42	.00	.00	.00	.00	.00	.00	735.69	986.11	
TOTAL FEED UNITS	280.82	.00	.00	280.82	4.90	.00	.00	4.90	25.47	14.86	3617.95	3944.00	
TOTAL WEIGHT	695.36	.00	.00	695.36	8.16	.00	.00	8.16	169.83	82.55	3617.95	4573.85	

1972 ROUGHAGE REQUIREMENTS FOR IDAHO

LIVESTOCK TYPE	MAY			ALFALFA			SILAGE			TOTAL	
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:	PASTURE:	TOTAL
MILK COWS											
FEED UNITS IN 1000'S	.00	.00	.00	.00	205.19	82.08	.00	287.27	.00	221.97	545.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	341.98	136.80	.00	478.78	.00	221.97	939.16
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1358.87	543.58	.00	1902.45	.00	1469.99	3609.27
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	.00	.00	.00	47.06	23.53	.00	70.59	.00	67.41	138.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	78.43	39.22	.00	117.65	.00	67.41	185.06
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	811.38	405.69	.00	1217.07	.00	1162.24	2379.31
CATTLE ON FEED											
FEED UNITS IN 1000'S	46.79	23.39	.00	70.18	.00	.00	.00	.00	.00	24.82	95.00
WT IN 1000 MET. TONS	114.12	57.05	.00	171.17	.00	.00	.00	.00	.00	24.82	195.99
FU/HEAD IN KILOGRAMS	176.57	88.26	.00	264.83	.00	.00	.00	.00	.00	93.66	358.49
OTHER BEEF											
FEED UNITS IN 1000'S	.00	.00	.00	.00	471.09	353.32	.00	824.41	.00	2301.59	3126.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	785.15	588.87	.00	1374.02	.00	2301.59	3675.61
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	280.58	210.43	.00	491.01	.00	1370.81	1861.82
SHEEP ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	2.68	.00	.00	2.68	.00	.36	3.04
WT IN 1000 MET. TONS	.00	.00	.00	.00	4.47	.00	.00	4.47	.00	.36	4.83
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	26.27	.00	.00	26.27	.00	3.53	29.80
STOCK SHEEP											
FEED UNITS IN 1000'S	.00	.00	.00	.00	12.99	9.74	.00	22.73	.00	328.23	350.96
WT IN 1000 MET. TONS	.00	.00	.00	.00	21.65	16.23	.00	37.88	.00	328.23	366.11
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	19.16	14.37	.00	33.53	.00	484.12	517.64
HORSES AND MULES ...											
FEED UNITS IN 1000'S	14.22	11.38	.00	25.60	.00	.00	.00	.00	.00	30.40	56.00
WT IN 1000 MET. TONS	35.55	28.45	.00	64.00	.00	.00	.00	.00	.00	30.40	94.40
FU/HEAD IN KILOGRAMS	278.82	223.14	.00	501.96	.00	.00	.00	.00	.00	596.08	1098.04
TOTAL FEED UNITS ...	61.01	34.77	.00	95.78	739.01	468.67	.00	1207.68	.00	2974.78	4314.00
TOTAL WEIGHT	149.67	85.50	.00	235.17	1231.68	781.12	.00	2012.80	.00	2974.78	5461.16

1972 ROUGHAGE REQUIREMENTS FOR ILLINOIS

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF			SILAGE			PASTURE			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF	CORN	SORGHUM	CORN	SORGHUM	CORN	SORGHUM	CORN	SORGHUM	
MILK COWS																
FEED UNITS IN 1000'S	.00	.00	.00	.00	303.08	.00	.00	303.08	.00	106.14	5.32	390.46	805.00			
WT IN 1000 MET. TONS	.00	.00	.00	.00	505.13	.00	.00	505.13	.00	707.61	29.57	390.46	1632.77			
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1059.72	.00	.00	1059.72	.00	371.12	18.61	1365.23	2814.69			
OTHER DAIRY																
FEED UNITS IN 1000'S	.00	.00	.00	.00	72.63	.00	.00	72.63	.00	.00	.00	140.37	213.00			
WT IN 1000 MET. TONS	.00	.00	.00	.00	121.05	.00	.00	121.05	.00	.00	.00	140.37	261.42			
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	825.34	.00	.00	825.34	.00	.00	.00	1595.11	2420.45			
CATTLE ON FEED																
FEED UNITS IN 1000'S	57.62	.00	.00	57.62	.00	.00	.00	.00	.00	.00	.00	59.38	117.00			
WT IN 1000 MET. TONS	146.54	.00	.00	146.54	.00	.00	.00	.00	.00	.00	.00	59.38	199.92			
FU/HEAD IN KILOGRAMS	87.04	.00	.00	87.04	.00	.00	.00	.00	.00	.00	.00	89.70	176.74			
OTHER BEEF																
FEED UNITS IN 1000'S	161.55	.00	.00	161.55	573.03	.00	.00	573.03	.00	.00	.00	4230.41	4965.00			
WT IN 1000 MET. TONS	394.03	.00	.00	394.03	955.06	.00	.00	955.06	.00	.00	.00	4230.41	5579.50			
FU/HEAD IN KILOGRAMS	53.39	.00	.00	53.39	189.37	.00	.00	189.37	.00	.00	.00	1398.02	1640.78			
SHEEP ON FEED																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.04	1.04			
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.04	1.04			
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	18.91	18.91			
STOCK SHEEP																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	119.96	119.96			
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	119.96	119.96			
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	499.83	499.83			
HORSES AND MULES																
FEED UNITS IN 1000'S	21.59	.00	.00	21.59	.00	.00	.00	.00	.00	.00	.00	63.41	85.00			
WT IN 1000 MET. TONS	53.97	.00	.00	53.97	.00	.00	.00	.00	.00	.00	.00	63.41	117.39			
FU/HEAD IN KILOGRAMS	304.08	.00	.00	304.08	.00	.00	.00	.00	.00	.00	.00	893.10	1197.18			
TOTAL FEED UNITS	240.76	.00	.00	240.76	948.74	.00	.00	948.74	.00	106.14	5.32	5005.03	6306.00			
TOTAL WEIGHT	588.54	.00	.00	588.54	1581.24	.00	.00	1581.24	.00	707.61	29.57	5005.03	7911.99			

1972 ROUGHAGE REQUIREMENTS FOR IOWA

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:			SILAGE			PASTURE:			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:						
MILK COWS																
FEED UNITS IN 1000'S	.00	.00	.00	.00	478.15	.00	.00	478.15	246.66	10.42	534.77	1270.00				
WT IN 1000 MET. TONS	.00	.00	.00	.00	796.92	.00	.00	796.92	1644.38	57.88	534.77	3033.95				
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1028.28	.00	.00	1028.28	530.45	22.41	1150.05	2731.18				
OTHER DAIRY																
FEED UNITS IN 1000'S	.00	.00	.00	.00	130.26	.00	.00	130.26	.00	.00	251.74	382.00				
WT IN 1000 MET. TONS	.00	.00	.00	.00	217.10	.00	.00	217.10	.00	.00	251.74	468.84				
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	856.97	.00	.00	856.97	.00	.00	1656.18	2513.16				
CATTLE ON FEED																
FEED UNITS IN 1000'S	179.76	.00	.00	179.76	.00	.00	.00	.00	.00	.00	185.24	365.00				
WT IN 1000 MET. TONS	438.44	.00	.00	438.44	.00	.00	.00	.00	.00	.00	185.24	623.68				
FU/HEAD IN KILOGRAMS	85.11	.00	.00	85.11	.00	.00	.00	.00	.00	.00	87.71	172.82				
OTHER BEEF																
FEED UNITS IN 1000'S	178.52	.00	.00	178.52	1549.53	.00	.00	1549.53	.00	.00	10551.95	12280.00				
WT IN 1000 MET. TONS	435.42	.00	.00	435.42	2582.55	.00	.00	2582.55	.00	.00	10551.95	13569.92				
FU/HEAD IN KILOGRAMS	24.95	.00	.00	24.95	216.54	.00	.00	216.54	.00	.00	1474.56	1716.04				
SHEEP ON FEED																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.36	2.36				
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.36	2.36				
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	13.18	13.18				
STOCK SHEEP																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	272.63	272.63				
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	272.63	272.63				
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	490.34	490.34				
HORSES AND MULES																
FEED UNITS IN 1000'S	27.94	.00	.00	27.94	.00	.00	.00	.00	.00	.00	82.06	110.00				
WT IN 1000 MET. TONS	69.85	.00	.00	69.85	.00	.00	.00	.00	.00	.00	82.06	151.91				
FU/HEAD IN KILOGRAMS	324.88	.00	.00	324.88	.00	.00	.00	.00	.00	.00	954.19	1279.07				
TOTAL FEED UNITS	386.22	.00	.00	386.22	2157.94	.00	.00	2157.94	246.66	10.42	11880.75	14681.99				
TOTAL WEIGHT	943.71	.00	.00	943.71	3596.57	.00	.00	3596.57	1644.38	57.88	11880.75	18123.29				

1972 ROUGHAGE REQUIREMENTS FOR KANSAS

LIVESTOCK TYPE	PAY			ALFALFA			TOT ALF			CORN			SORGHUM			PASTURE			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF	EXTRA	OUT STATE	TOT ALF	EXTRA	OUT STATE	TOT ALF	EXTRA	OUT STATE	TOT ALF	EXTRA	OUT STATE	
MILK COWS																			
FEED UNITS IN 1000'S																			
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	407.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	121.44
OTHER DAIRY																			
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	121.44
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	121.44
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	121.44
CATTLE ON FEED																			
FEED UNITS IN 1000'S	306.83	.00	.00	306.83	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	623.00
WT IN 1000 MET. TONS	748.37	.00	.00	748.37	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	214.43
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	64.34
OTHER BEEF																			
FEED UNITS IN 1000'S	231.50	.00	.00	231.50	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	129.53
WT IN 1000 MET. TONS	564.63	.00	.00	564.63	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	158.14
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	158.14
SHEEP ON FEED																			
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	924.93
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	924.93
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	924.93
STOCK SHEEP																			
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	98.15
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	98.15
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	98.15
HORSES AND MULES ...																			
FEED UNITS IN 1000'S	21.84	.00	.00	21.84	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	54.16
WT IN 1000 MET. TONS	54.60	.00	.00	54.60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	54.16
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	54.16
TOTAL FEED UNITS ...	560.17	.00	.00	560.17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	11946.00
TOTAL WEIGHT	1367.60	.00	.00	1367.60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	9784.51

1972 ROUGHAGE REQUIREMENTS FOR KENTUCKY

LIVESTOCK TYPE	HAY		ALFALFA		TOT ALF	SILAGE		PASTURE		TOTAL
	IN STATE	OUT STATE	IN STATE	OUT STATE		CORN	SORGHUM	CORN	SORGHUM	
MILK COWS										
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	49.72	5.09	371.03		683.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	331.49	28.30	371.03		1159.41
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	152.53	15.63	1138.14		2095.09
OTHER DAIRY										
FEED UNITS IN 1000'S	36.98	.00	36.98	.00	.00	.00	.00	121.26		184.00
WT IN 1000 MET. TONS	92.46	.00	92.46	.00	.00	.00	.00	121.26		256.65
FU/HEAD IN KILOGRAMS	406.42	.00	406.42	.00	.00	.00	.00	1332.53		2021.98
CATTLE ON FEED										
FEED UNITS IN 1000'S	5.42	.00	5.42	.00	.00	.00	.00	5.58		11.00
WT IN 1000 MET. TONS	13.22	.00	13.22	.00	.00	.00	.00	5.58		18.00
FU/HEAD IN KILOGRAMS	123.18	.00	123.18	.00	.00	.00	.00	126.82		250.00
OTHER BEEF										
FEED UNITS IN 1000'S	579.76	.00	579.76	.00	.00	.00	.00	4043.24		4623.00
WT IN 1000 MET. TONS	1414.05	.00	1414.05	.00	.00	.00	.00	4043.24		5457.29
FU/HEAD IN KILOGRAMS	232.00	.00	232.00	.00	.00	.00	.00	1617.94		1849.94
SHEEP ON FEED										
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.21		.21
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.21		.21
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00		.00
STOCK SHEEP										
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	24.79		24.79
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	24.79		24.79
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	317.82		317.82
HORSES AND MULES										
FEED UNITS IN 1000'S	36.58	.00	36.58	.00	.00	.00	.00	107.42		144.00
WT IN 1000 MET. TONS	91.45	.00	91.45	.00	.00	.00	.00	107.42		198.87
FU/HEAD IN KILOGRAMS	243.87	.00	243.87	.00	.00	.00	.00	716.13		960.00
TOTAL FEED UNITS	658.74	.00	658.74	.00	.00	282.91	5.09	4673.53		5670.00
TOTAL WEIGHT	1611.18	.00	1611.18	.00	.00	471.51	28.30	4673.53		7116.01

1972 POUCHAGE REQUIREMENTS FOR LOUISIANA

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF			SILAGE		SORGHUM		PASTURE		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF	CORN	SORGHUM							
MILK COWS																
FEED UNITS IN 1000'S	91.29	.00	.00	91.29	12.25	.00	12.25	2.61	1.96							
WT IN 1000 MET. TONS	228.24	.00	.00	228.24	20.41	.00	20.41	17.42	10.89							275.00
FU/HEAD IN KILOGRAMS	581.49	.00	.00	581.49	78.00	.00	78.00	16.64	12.49							443.84
OTHER DAIRY																
FEED UNITS IN 1000'S	26.60	.00	.00	26.60	.00	.00	.00	.00	.00							78.00
WT IN 1000 MET. TONS	66.50	.00	.00	66.50	.00	.00	.00	.00	.00							117.90
FU/HEAD IN KILOGRAMS	565.96	.00	.00	565.96	.00	.00	.00	.00	.00							1659.57
CATTLE ON FEED																
FEED UNITS IN 1000'S	3.45	.00	.00	3.45	.00	.00	.00	.00	.00							7.00
WT IN 1000 MET. TONS	8.41	.00	.00	8.41	.00	.00	.00	.00	.00							11.96
FU/HEAD IN KILOGRAMS	431.25	.00	.00	431.25	.00	.00	.00	.00	.00							875.00
OTHER BEEF																
FEED UNITS IN 1000'S	35.15	.00	.00	35.15	.00	.00	.00	.00	.00							2434.00
WT IN 1000 MET. TONS	85.73	.00	.00	85.73	.00	.00	.00	.00	.00							2484.58
FU/HEAD IN KILOGRAMS	23.06	.00	.00	23.06	.00	.00	.00	.00	.00							1597.11
SHEEP ON FEED																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00							.07
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00							.07
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00							.00
STOCK SHEEP																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00							7.93
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00							7.93
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00							360.45
HORSES AND MULES																
FEED UNITS IN 1000'S	17.27	.00	.00	17.27	.00	.00	.00	.00	.00							68.00
WT IN 1000 MET. TONS	43.17	.00	.00	43.17	.00	.00	.00	.00	.00							93.91
FU/HEAD IN KILOGRAMS	196.25	.00	.00	196.25	.00	.00	.00	.00	.00							772.73
TOTAL FEED UNITS ...	173.76	.00	.00	173.76	12.25	.00	12.25	2.61	1.96							2870.00
TOTAL WEIGHT	432.05	.00	.00	432.05	20.41	.00	20.41	17.42	10.89							3160.19

1972 ROUGHAGE REQUIREMENTS FOR MAINE

LIVESTOCK TYPE	HAY			ALFALFA			TOT HAY:IN STATE			TOT ALF: OUT STATE			SILAGE			TOTAL		
	IN STATE	EXTRA	OUT STATE	IN STATE	EXTRA	OUT STATE	IN STATE	EXTRA	OUT STATE	IN STATE	EXTRA	OUT STATE	CORN	SORGHUM	PASTURE:			
MILK COWS																		
FEED UNITS IN 1000'S	38.26	23.79	.00	62.05	21.23	.00	.00	.00	.00	21.23	.00	.00	14.37	.00	60.35	158.00		
WT IN 1000 MET. TONS	95.65	59.47	.00	155.13	35.38	.00	.00	.00	.00	35.38	.00	.00	95.80	.00	60.35	346.66		
FU/HEAD IN KILOGRAMS	627.25	390.00	.00	1017.25	348.00	.00	.00	.00	.00	348.00	.00	.00	235.57	.00	989.34	2590.16		
OTHER DAIRY																		
FEED UNITS IN 1000'S	17.73	1.99	.00	13.72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	32.28	52.00		
WT IN 1000 MET. TONS	44.32	4.99	.00	49.31	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	32.28	81.59		
FU/HEAD IN KILOGRAMS	738.75	83.10	.00	821.85	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1344.81	2166.67		
CATTLE ON FEED																		
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
OTHER BEEF																		
FEED UNITS IN 1000'S	14.17	.00	.00	14.17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	79.83	94.00		
WT IN 1000 MET. TONS	34.56	.00	.00	34.56	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	79.83	114.39		
FU/HEAD IN KILOGRAMS	277.84	.00	.00	277.84	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1565.29	1843.14		
SHEEP ON FEED																		
FEED UNITS IN 1000'S	.35	.00	.00	.35	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05		
WT IN 1000 MET. TONS	.12	.00	.00	.12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.12		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
STOCK SHEEP																		
FEED UNITS IN 1000'S	.22	.00	.00	.22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.73	5.95		
WT IN 1000 MET. TONS	.52	.00	.00	.52	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.73	6.25		
FU/HEAD IN KILOGRAMS	15.71	.00	.00	15.71	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	409.29	425.00		
HORSES AND MULES																		
FEED UNITS IN 1000'S	2.54	2.03	.00	4.57	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.43	10.00		
WT IN 1000 MET. TONS	6.35	5.07	.00	11.42	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.43	16.86		
FU/HEAD IN KILOGRAMS	317.50	253.75	.00	571.25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	678.75	1250.00		
TOTAL FEED UNITS	72.97	27.81	.00	100.79	21.23	.00	.00	.00	.00	21.23	.00	.00	14.37	.00	183.62	320.00		
TOTAL WEIGHT	181.53	69.54	.00	251.07	35.38	.00	.00	.00	.00	35.38	.00	.00	95.80	.00	183.62	565.87		

1972 ROUGHAGE REQUIREMENTS FOR MARYLAND

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:			SILAGE			PASTURE:			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:	IN STATE	EXTRA	OUT STATE			
MILK COWS																
FEED UNITS IN 1000'S	21.03	.00	.00	81.03	86.14	.00	.00	.00	86.14	31.03	.00	245.80	.00	245.80	444.00	
WT IN 1000 MET. TONS	202.59	.00	.00	202.59	143.56	.00	.00	.00	143.56	206.84	.00	245.80	.00	245.80	798.79	
FU/HEAD IN KILOGRAMS	543.65	.00	.00	543.85	578.09	.00	.00	.00	578.09	208.23	.00	1649.69	.00	1649.69	2979.87	
OTHER DAIRY																
FEED UNITS IN 1000'S	6.23	.00	.00	8.23	.00	.00	.00	.00	.00	.00	.00	93.77	.00	93.77	102.00	
WT IN 1000 MET. TONS	20.58	.00	.00	20.58	.00	.00	.00	.00	.00	.00	.00	93.77	.00	93.77	114.35	
FU/HEAD IN KILOGRAMS	191.45	.00	.00	191.45	.00	.00	.00	.00	.00	.00	.00	2180.65	.00	2180.65	2372.09	
CATTLE ON FEED																
FEED UNITS IN 1000'S	5.42	.00	.00	5.42	.00	.00	.00	.00	.00	.00	.00	5.58	.00	5.58	11.00	
WT IN 1000 MET. TONS	13.22	.00	.00	13.22	.00	.00	.00	.00	.00	.00	.00	5.58	.00	5.58	12.80	
FU/HEAD IN KILOGRAMS	271.00	.00	.00	271.00	.00	.00	.00	.00	.00	.00	.00	279.00	.00	279.00	550.00	
OTHER BEEF																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	394.00	.00	394.00	394.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	394.00	.00	394.00	394.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1894.23	.00	1894.23	1894.23	
SHEEP ON FEED																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.08	.00	.08	.08	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.08	.00	.08	.08	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.92	.00	8.92	8.92	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.92	.00	8.92	8.92	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	446.00	.00	446.00	446.00	
HORSES AND MULES																
FEED UNITS IN 1000'S	5.33	.00	.00	5.33	.00	.00	.00	.00	.00	.00	.00	15.67	.00	15.67	21.00	
WT IN 1000 MET. TONS	13.32	.00	.00	13.32	.00	.00	.00	.00	.00	.00	.00	15.67	.00	15.67	29.00	
FU/HEAD IN KILOGRAMS	333.12	.00	.00	333.12	.00	.00	.00	.00	.00	.00	.00	979.38	.00	979.38	1312.50	
TOTAL FEED UNITS	100.02	.00	.00	100.02	86.14	.00	.00	.00	86.14	31.03	.00	763.82	.00	763.82	981.00	
TOTAL WEIGHT	249.71	.00	.00	249.71	143.56	.00	.00	.00	143.56	206.84	.00	763.82	.00	763.82	1363.93	

1972 POUHAGE REQUIREMENTS FOR MASSACHUSETTS

LIVESTOCK TYPE	IN STATE			OUT STATE			TOT HAY:IN STATE			ALFALFA			TOT ALF:			SILAGE			PASTURE:			TOTAL		
	IN STATE	EXTRA	PAY	OUT STATE	EXTRA	PAY	IN STATE	EXTRA	PAY	OUT STATE	EXTRA	PAY	IN STATE	EXTRA	PAY	CORN	SORGHUM:		IN STATE	EXTRA	PAY	IN STATE	EXTRA	PAY
MILK COWS																								
FEED UNITS IN 1000'S	24.98			.00			24.98			.00			32.25			14.80			.00			79.97		
WT IN 1000 MET. TONS	52.45			.00			62.45			.00			53.75			98.70			.00			79.97		
FU/HEAD IN KILOGRAMS	430.69			.00			430.69			.00			556.03			255.26			.00			1378.71		
OTHER DAIRY																								
FEED UNITS IN 1000'S	11.25			.00			11.25			.00			.00			.00			.00			21.75		
WT IN 1000 MET. TONS	28.13			.00			28.13			.00			.00			.00			.00			21.75		
FU/HEAD IN KILOGRAMS	750.00			.00			750.00			.00			.00			.00			.00			1450.00		
CATTLE ON FEED																								
FEED UNITS IN 1000'S	.00			.00			.00			.00			.00			.00			.00			.00		
WT IN 1000 MET. TONS	.00			.00			.00			.00			.00			.00			.00			.00		
FU/HEAD IN KILOGRAMS	.00			.00			.00			.00			.00			.00			.00			.00		
OTHER BEEF																								
FEED UNITS IN 1000'S	6.23			.00			6.23			.00			.00			.00			.00			54.77		
WT IN 1000 MET. TONS	15.20			.00			15.20			.00			.00			.00			.00			54.77		
FU/HEAD IN KILOGRAMS	168.38			.00			168.38			.00			.00			.00			.00			1480.27		
SHEEP ON FEED																								
FEED UNITS IN 1000'S	.00			.00			.00			.00			.00			.00			.00			.03		
WT IN 1000 MET. TONS	.00			.00			.00			.00			.00			.00			.00			.03		
FU/HEAD IN KILOGRAMS	.00			.00			.00			.00			.00			.00			.00			.00		
STOCK SHEEP																								
FEED UNITS IN 1000'S	.00			.00			.00			.00			.00			.00			.00			2.97		
WT IN 1000 MET. TONS	.00			.00			.00			.00			.00			.00			.00			2.97		
FU/HEAD IN KILOGRAMS	.00			.00			.00			.00			.00			.00			.00			371.25		
HORSES AND MULES ...																								
FEED UNITS IN 1000'S	1.78			.00			1.78			.00			.00			.00			.00			5.22		
WT IN 1000 MET. TONS	4.45			.00			4.45			.00			.00			.00			.00			5.22		
FU/HEAD IN KILOGRAMS	356.00			.00			356.00			.00			.00			.00			.00			1044.00		
TOTAL FEED UNITS ...	44.24			.00			44.24			.00			32.25			14.80			.00			164.71		
TOTAL WEIGHT	110.22			.00			110.22			.00			53.75			98.70			.00			164.71		

1972 ROUGHAGE REQUIREMENTS FOR MICHIGAN

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:		
MILK COWS												
FEED UNITS IN 1000'S	.00	53.76	.00	53.76	531.62	18.47	.00	550.09	135.54	.00	672.62	1412.00
WT IN 1000 MET. TONS	.00	134.40	.00	134.40	886.03	30.78	.00	916.81	903.57	.00	672.62	2627.40
FU/HEAD IN KILOGRAMS	.00	125.02	.00	125.02	1236.33	42.95	.00	1279.27	315.20	.00	1564.23	3283.72
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	137.42	.00	.00	137.42	.00	.00	265.58	403.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	229.03	.00	.00	229.03	.00	.00	265.58	494.61
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	785.26	.00	.00	785.26	.00	.00	1517.60	2302.86
CATTLE ON FEED												
FEED UNITS IN 1000'S	21.67	10.84	.00	32.51	.00	.00	.00	.00	.00	.00	11.49	44.00
WT IN 1000 MET. TONS	52.85	26.44	.00	79.29	.00	.00	.00	.00	.00	.00	11.49	90.78
FU/HEAD IN KILOGRAMS	94.22	47.13	.00	141.35	.00	.00	.00	.00	.00	.00	49.96	191.30
OTHER BEEF												
FEED UNITS IN 1000'S	.00	.00	.00	.00	243.23	.00	.00	243.23	.00	.00	1370.77	1614.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	405.38	.00	.00	405.38	.00	.00	1370.77	1776.15
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	250.49	.00	.00	250.49	.00	.00	1411.71	1662.20
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.64	.00	.00	.64	.00	.00	.08	.72
WT IN 1000 MET. TONS	.00	.00	.00	.00	1.07	.00	.00	1.07	.00	.00	.08	1.15
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	13.91	.00	.00	13.91	.00	.00	1.74	15.65
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	3.08	.00	.00	3.08	.00	.00	80.20	63.28
WT IN 1000 MET. TONS	.00	.00	.00	.00	5.13	.00	.00	5.13	.00	.00	80.20	85.33
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	17.50	.00	.00	17.50	.00	.00	455.68	473.18
HORSES AND MULES ...												
FEED UNITS IN 1000'S	11.18	8.94	.00	20.12	.00	.00	.00	.00	.00	.00	23.88	44.00
WT IN 1000 MET. TONS	27.95	22.35	.00	50.30	.00	.00	.00	.00	.00	.00	23.88	74.18
FU/HEAD IN KILOGRAMS	310.56	248.33	.00	558.89	.00	.00	.00	.00	.00	.00	663.33	1222.22
TOTAL FEED UNITS ...	32.85	73.54	.00	106.39	915.99	18.47	.00	934.46	135.54	.00	2424.62	3601.00
TOTAL WEIGHT	80.80	183.19	.00	263.99	1526.65	30.78	.00	1557.43	903.57	.00	2424.62	5149.61

1972 ROUGHAGE REQUIREMENTS FOR MINNESOTA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:			
MILK COWS													
FEED UNITS IN 1000'S	.00	.00	.00	.00	1052.69	421.08	.00	1473.77	248.83	.00	1073.40	2796.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	1754.48	701.80	.00	2456.28	1658.90	.00	1073.40	5188.58	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1123.47	449.39	.00	1572.86	265.57	.00	1145.57	2983.99	
OTHER DAIRY													
FEED UNITS IN 1000'S	.00	.00	.00	.00	229.49	114.75	.00	344.24	.00	.00	328.76	673.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	382.48	191.25	.00	573.73	.00	.00	328.76	902.49	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	699.66	349.85	.00	1049.51	.00	.00	1002.32	2051.83	
CATTLE ON FEED													
FEED UNITS IN 1000'S	40.88	20.44	.00	61.32	.00	.00	.00	.00	.00	.00	21.68	83.00	
WT IN 1000 MET. TONS	99.71	49.85	.00	149.56	.00	.00	.00	.00	.00	.00	21.68	171.24	
FU/HEAD IN KILOGRAMS	76.13	38.06	.00	114.19	.00	.00	.00	.00	.00	.00	40.37	154.56	
OTHER BEEF													
FEED UNITS IN 1000'S	.00	331.78	.00	331.78	716.28	202.34	.00	918.62	.00	.00	3502.61	4753.00	
WT IN 1000 MET. TONS	.00	809.21	.00	809.21	1193.80	337.23	.00	1531.03	.00	.00	3502.61	5842.85	
FU/HEAD IN KILOGRAMS	.00	121.40	.00	121.40	262.09	74.03	.00	336.12	.00	.00	1281.60	1739.11	
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	1.15	.00	.00	1.15	.00	.00	.16	1.31	
WT IN 1000 MET. TONS	.00	.00	.00	.00	1.92	.00	.00	1.92	.00	.00	.16	2.08	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	10.55	.00	.00	10.55	.00	.00	1.47	12.02	
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	5.58	.00	.00	5.58	.00	.00	145.11	150.69	
WT IN 1000 MET. TONS	.00	.00	.00	.00	9.30	.00	.00	9.30	.00	.00	145.11	154.41	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	15.59	.00	.00	15.59	.00	.00	405.34	420.92	
HORSES AND MULES													
FEED UNITS IN 1000'S	16.76	13.41	.00	30.17	.00	.00	.00	.00	.00	.00	35.83	66.00	
WT IN 1000 MET. TONS	41.90	33.52	.00	75.42	.00	.00	.00	.00	.00	.00	35.83	111.26	
FU/HEAD IN KILOGRAMS	284.07	227.29	.00	511.36	.00	.00	.00	.00	.00	.00	607.29	1118.64	
TOTAL FEED UNITS	57.64	365.63	.00	423.27	2005.19	738.17	.00	2743.36	248.83	.00	5107.54	8523.00	
TOTAL WEIGHT	141.61	892.59	.00	1034.20	3341.98	1230.28	.00	4572.26	1658.90	.00	5107.54	12372.90	

1972 ROUGHAGE REQUIREMENTS FOR MISSISSIPPI

LIVESTOCK TYPE	HAY		ALFALFA		TOT ALF:		STILAGE		PASTURE:		TOTAL
	IN STATE:	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	CORN	SORGHUM:			
MILK COWS											
FEED UNITS IN 1000'S	85.11		.00	85.11	14.29	.00	9.93	15.68	138.99	264.00	
WT IN 1000 MET. TONS	212.78		.00	212.78	23.81	.00	66.23	87.09	138.99	528.90	
FU/HEAD IN KILOGRAMS	525.40		.00	525.40	88.19	.00	61.32	96.77	857.96	1629.63	
OTHER DAIRY											
FEED UNITS IN 1000'S	24.89		.00	24.89	.00	.00	.00	.00	42.11	73.00	
WT IN 1000 MET. TONS	62.23		.00	62.23	.00	.00	.00	.00	42.11	110.34	
FU/HEAD IN KILOGRAMS	541.09		.00	541.09	.00	.00	.00	.00	1045.27	1586.96	
CATTLE ON FEED											
FEED UNITS IN 1000'S	3.94		.00	3.94	.00	.00	.00	.00	4.06	8.00	
WT IN 1000 MET. TONS	9.61		.00	9.61	.00	.00	.00	.00	4.06	13.67	
FU/HEAD IN KILOGRAMS	231.76		.00	231.76	.00	.00	.00	.00	238.82	470.59	
OTHER BEEF											
FEED UNITS IN 1000'S	158.06		.00	158.06	.00	.00	.00	.00	3189.94	3348.00	
WT IN 1000 MET. TONS	385.52		.00	385.52	.00	.00	.00	.00	3189.94	3575.46	
FU/HEAD IN KILOGRAMS	74.77		.00	74.77	.00	.00	.00	.00	1508.96	1583.73	
SHEEP ON FEED											
FEED UNITS IN 1000'S	.00		.00	.00	.00	.00	.00	.00	.03	.03	
WT IN 1000 MET. TONS	.00		.00	.00	.00	.00	.00	.00	.03	.03	
FU/HEAD IN KILOGRAMS	.00		.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP											
FEED UNITS IN 1000'S	.00		.00	.00	.00	.00	.00	.00	2.97	2.97	
WT IN 1000 MET. TONS	.00		.00	.00	.00	.00	.00	.00	2.97	2.97	
FU/HEAD IN KILOGRAMS	.00		.00	.00	.00	.00	.00	.00	297.00	297.00	
HORSES AND MULES											
FEED UNITS IN 1000'S	26.42		.00	26.42	.00	.00	.00	.00	77.58	104.00	
WT IN 1000 MET. TONS	66.05		.00	66.05	.00	.00	.00	.00	77.58	143.63	
FU/HEAD IN KILOGRAMS	184.76		.00	184.76	.00	.00	.00	.00	542.52	727.27	
TOTAL FEED UNITS ...	298.43		.00	298.43	14.29	.00	9.93	15.68	3461.68	3800.00	
TOTAL WEIGHT	736.19		.00	736.19	23.81	.00	66.23	87.09	3461.68	4375.00	

1972 ROUGHAGE REQUIREMENTS FOR MISSOURI

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		
	IN STATE	EXTRA	TOT	IN STATE	EXTRA	TOT	CORN	SORGHUM	TOTAL			
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CATTLE ON FEED												
FEED UNITS IN 1000'S	32.01	.00	32.01	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	78.07	.00	78.07	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	29.10	.00	29.10	.00	.00	.00	.00	.00	.00	.00	.00	.00
OTHER BEEF												
FEED UNITS IN 1000'S	911.85	.00	911.85	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	2224.02	.00	2224.02	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	139.70	.00	139.70	.00	.00	.00	.00	.00	.00	.00	.00	.00
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
HORSES AND MULES												
FEED UNITS IN 1000'S	28.45	.00	28.45	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	71.12	.00	71.12	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	406.43	.00	406.43	.00	.00	.00	.00	.00	.00	.00	.00	.00
TOTAL FEED UNITS ...	972.31	.00	972.31	.00	.00	.00	.00	.00	.00	.00	.00	.00
TOTAL WEIGHT	2373.22	.00	2373.22	.00	.00	.00	.00	.00	.00	.00	.00	.00

1972 ROUGHAGE REQUIREMENTS FOR MONTANA

LIVESTOCK TYPE	HAY		ALFALFA		TOT ALF:		SILAGE		PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	CORN	SORGHUM:		
MILK COWS											
FEED UNITS IN 1000'S	.00	.00	.00	.00	33.88	13.55	.00	19.19	.00	23.38	90.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	56.47	22.58	.00	127.91	.00	23.38	230.34
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	968.00	387.14	.00	548.19	.00	668.10	2571.43
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	.00	.00	.00	7.16	3.58	.00	.00	.00	10.26	21.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	11.93	5.97	.00	.00	.00	10.26	28.16
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	650.91	325.45	.00	.00	.00	932.73	1909.09
CATTLE ON FEED											
FEED UNITS IN 1000'S	24.62	12.31	.00	36.93	.00	.00	.00	.00	.00	13.07	50.00
WT IN 1000 MET. TONS	60.05	30.02	.00	90.07	.00	.00	.00	.00	.00	13.07	103.14
FU/HEAD IN KILOGRAMS	149.21	74.61	.00	223.82	.00	.00	.00	.00	.00	79.21	303.03
OTHER BEEF											
FEED UNITS IN 1000'S	.00	340.01	.00	340.01	813.48	81.57	.00	.00	.00	4162.94	5398.00
WT IN 1000 MET. TONS	.00	829.29	.00	829.29	1355.80	135.95	.00	.00	.00	4162.94	6483.98
FU/HEAD IN KILOGRAMS	.00	109.01	.00	109.01	260.81	26.15	.00	.00	.00	1334.70	1730.68
SHEEP ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	3.01	.00	.00	.00	.00	.40	3.41
WT IN 1000 MET. TONS	.00	.00	.00	.00	5.02	.00	.00	.00	.00	.40	5.42
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	30.10	.00	.00	.00	.00	4.00	34.10
STOCK SHEEP											
FEED UNITS IN 1000'S	.00	.00	.00	.00	14.56	.00	.00	.00	.00	379.03	393.59
WT IN 1000 MET. TONS	.00	.00	.00	.00	24.27	.00	.00	.00	.00	379.03	403.30
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	16.18	.00	.00	.00	.00	421.14	437.32
HORSES AND MULES ...											
FEED UNITS IN 1000'S	21.59	17.27	.00	38.86	.00	.00	.00	.00	.00	46.14	85.00
WT IN 1000 MET. TONS	53.97	43.17	.00	97.15	.00	.00	.00	.00	.00	46.14	143.29
FU/HEAD IN KILOGRAMS	245.34	196.25	.00	441.59	.00	.00	.00	.00	.00	524.32	965.91
TOTAL FEED UNITS ...	46.21	369.59	.00	415.80	872.09	98.70	.00	19.19	.00	4635.23	6041.00
TOTAL WEIGHT	114.02	902.49	.00	1016.51	1453.48	164.50	.00	127.91	.00	4635.23	7397.63

1972 ROUGHAGE REQUIREMENTS FOR NEBRASKA

LIVESTOCK TYPE	HAY		ALFALFA		TOT ALF:		SILAGE		PASTURE:		TOTAL
	IN STATE	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	CORN	SORGHUM:			
MILK COWS											
FEED UNITS IN 1000'S	.00	.00	.00	150.98	60.39	.00	211.37	130.37	.00	59.26	401.00
WT IN 1000 MET. TONS	.00	.00	.00	251.63	100.65	.00	352.28	869.13	.00	59.26	1280.68
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	.00	.00	28.33	14.15	.00	42.45	10.19	.00	30.36	83.00
WT IN 1000 MET. TONS	.00	.00	.00	47.17	23.58	.00	70.75	67.93	.00	30.36	169.04
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CATTLE ON FEED											
FEED UNITS IN 1000'S	430.94	192.20	.00	623.14	.00	.00	.00	39.04	35.79	177.03	875.00
WT IN 1000 MET. TONS	1051.07	468.77	.00	1519.85	.00	.00	.00	216.88	143.16	177.03	2056.92
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
OTHER BEEF											
FEED UNITS IN 1000'S	.00	.00	.00	1412.96	200.69	.00	1613.65	.00	.00	7762.35	9376.00
WT IN 1000 MET. TONS	.00	.00	.00	2354.93	334.48	.00	2689.41	.00	.00	7762.35	10451.76
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
SHEEP ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.74	.00	.00	.74	.00	.00	.09	.83
WT IN 1000 MET. TONS	.00	.00	.00	1.23	.00	.00	1.23	.00	.00	.09	1.32
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP											
FEED UNITS IN 1000'S	.00	.00	.00	3.56	.00	.00	3.56	.00	.00	92.61	96.17
WT IN 1000 MET. TONS	.00	.00	.00	5.93	.00	.00	5.93	.00	.00	92.61	98.54
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
HORSES AND MULES ...											
FEED UNITS IN 1000'S	17.27	13.82	.00	31.09	.00	.00	.00	.00	.00	36.91	68.00
WT IN 1000 MET. TONS	43.17	34.55	.00	77.72	.00	.00	.00	.00	.00	36.91	114.64
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
TOTAL FEED UNITS ...	448.21	206.02	.00	654.23	1596.54	275.23	1871.77	179.60	35.79	8158.62	10900.00
TOTAL WEIGHT	1094.25	503.32	.00	1597.57	2660.90	458.71	3119.61	1153.95	143.16	8158.62	14172.91

1972 ROUGHAGE REQUIREMENTS FOR NEVADA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE		
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF: CORN	SORGHUM:	PASTURE: TOTAL
MILK COWS									
FEED UNITS IN 1000'S	.00	2.74	.00	2.74	19.58	5.09	.00	24.67	23.75
WT IN 1000 MET. TONS	.00	6.85	.00	6.85	32.63	8.48	.00	41.11	23.75
FU/HEAD IN KILOGRAMS	.00	195.86	.00	195.86	1398.57	363.43	.00	1762.00	1696.21
OTHER DAIRY									
FEED UNITS IN 1000'S	.00	2.56	.00	2.56	5.11	.00	.00	5.11	7.33
WT IN 1000 MET. TONS	.00	6.40	.00	6.40	8.52	.00	.00	8.52	7.33
FU/HEAD IN KILOGRAMS	.00	426.67	.00	426.67	851.67	.00	.00	851.67	1221.67
CATTLE ON FEED									
FEED UNITS IN 1000'S	19.21	9.60	.00	28.81	.00	.00	.00	.00	10.19
WT IN 1000 MET. TONS	46.85	23.41	.00	70.27	.00	.00	.00	.00	10.19
FU/HEAD IN KILOGRAMS	392.04	195.92	.00	587.96	.00	.00	.00	.00	207.96
OTHER BEEF									
FEED UNITS IN 1000'S	.00	61.16	.00	61.16	210.23	.00	.00	210.23	1123.61
WT IN 1000 MET. TONS	.00	149.17	.00	149.17	350.38	.00	.00	350.38	1123.61
FU/HEAD IN KILOGRAMS	.00	97.86	.00	97.86	336.37	.00	.00	336.37	1797.78
SHEEP ON FEED									
FEED UNITS IN 1000'S	.00	.00	.00	.00	.71	.00	.00	.71	.09
WT IN 1000 MET. TONS	.00	.00	.00	.00	1.18	.00	.00	1.18	.09
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	25.36	.00	.00	25.36	3.21
STOCK SHEEP									
FEED UNITS IN 1000'S	.00	.00	.00	.00	3.41	.00	.00	3.41	88.79
WT IN 1000 MET. TONS	.00	.00	.00	.00	5.68	.00	.00	5.68	88.79
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	19.37	.00	.00	19.37	504.49
HORSES AND MULES									
FEED UNITS IN 1000'S	6.35	5.08	.00	11.43	.00	.00	.00	.00	13.57
WT IN 1000 MET. TONS	15.87	12.70	.00	28.57	.00	.00	.00	.00	13.57
FU/HEAD IN KILOGRAMS	317.50	254.00	.00	571.50	.00	.00	.00	.00	678.50
TOTAL FEED UNITS	25.56	81.14	.00	106.70	239.04	5.09	.84	244.13	1267.33
TOTAL WEIGHT	62.73	198.54	.00	261.27	398.40	8.48	5.62	406.88	1267.33
									1941.10

1972 ROUGHAGE REQUIREMENTS FOR NEW JERSEY

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	TOT	IN STATE	EXTRA	TOT	CORN	SORGHUM	ALF:	STATE	ALF:	
MILK COWS												
FEED UNITS IN 1000'S	8.97	.00	8.97	68.59	.00	68.59	12.03	.00	116.41	.00	116.41	206.00
WT IN 1000 MET. TONS	22.44	.00	22.44	114.31	.00	114.31	80.20	.00	116.41	.00	116.41	333.36
FU/HEAD IN KILOGRAMS	144.74	.00	144.74	1106.23	.00	1106.23	194.03	.00	1877.58	.00	1877.58	3322.58
OTHER DAIRY												
FEED UNITS IN 1000'S	10.23	.00	10.23	.00	.00	.00	.00	.00	19.77	.00	19.77	30.00
WT IN 1000 MET. TONS	25.58	.00	25.58	.00	.00	.00	.00	.00	19.77	.00	19.77	45.35
FU/HEAD IN KILOGRAMS	682.00	.00	682.00	.00	.00	.00	.00	.00	1318.00	.00	1318.00	2000.00
CATTLE ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
OTHER BEEF												
FEED UNITS IN 1000'S	12.64	.00	12.64	.00	.00	.00	.00	.00	101.36	.00	101.36	114.00
WT IN 1000 MET. TONS	30.83	.00	30.83	.00	.00	.00	.00	.00	101.36	.00	101.36	132.19
FU/HEAD IN KILOGRAMS	263.34	.00	263.34	.00	.00	.00	.00	.00	2111.66	.00	2111.66	2375.00
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00	.04	.04
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00	.04	.04
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	4.96	.00	4.96	4.96
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	4.96	.00	4.96	4.96
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	496.00	.00	496.00	496.00
HORSES AND MULES												
FEED UNITS IN 1000'S	3.30	.00	3.30	.00	.00	.00	.00	.00	9.70	.00	9.70	13.00
WT IN 1000 MET. TONS	8.25	.00	8.25	.00	.00	.00	.00	.00	9.70	.00	9.70	17.95
FU/HEAD IN KILOGRAMS	412.50	.00	412.50	.00	.00	.00	.00	.00	1212.50	.00	1212.50	1625.00
TOTAL FEED UNITS	35.14	.00	35.14	68.59	.00	68.59	12.03	.00	252.24	.00	252.24	366.00
TOTAL WEIGHT	87.09	.00	87.09	114.31	.00	114.31	80.20	.00	252.24	.00	252.24	533.84

1972 ROUGHAGE REQUIREMENTS FOR NEW MEXICO

LIVESTOCK TYPE	PAY			ALFALFA			SILAGE			PASTURE:			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:				
MILK COWS													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	35.39	11.02	1.44	46.15			94.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	58.98	73.48	7.98	46.15			186.59
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	1141.61	355.55	46.34	1488.76			3032.26
OTHER DAIRY													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	8.52	.00	.00	16.48			25.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	14.20	.00	.00	16.48			30.68
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	852.00	.00	.00	1648.00			2500.00
CATTLE C _H FEED													
FEED UNITS IN 1000'S	24.52	.00	.00	24.52	.00	.00	.00	.00	.00	154.48			179.00
WT IN 1000 MET. TONS	59.60	.00	.00	59.60	.00	.00	.00	.00	.00	154.48			214.28
FU/HEAD IN KILOGRAMS	130.40	.00	.00	130.40	.00	.00	.00	.00	.00	821.72			952.13
OTHER BEEF													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	314.52	.00	.00	2876.48			3191.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	524.21	.00	.00	2876.48			3400.68
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	214.25	.00	.00	1959.45			2173.71
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.43			3.43
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.43			3.43
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	107.19			107.19
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	395.57			395.57
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	395.57			395.57
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	580.01			580.01
HORSES AND MULES													
FEED UNITS IN 1000'S	14.73	.00	.00	14.73	.00	.00	.00	.00	.00	43.27			58.00
WT IN 1000 MET. TONS	36.82	.00	.00	36.82	.00	.00	.00	.00	.00	43.27			80.10
FU/HEAD IN KILOGRAMS	267.82	.00	.00	267.82	.00	.00	.00	.00	.00	786.73			1054.55
TOTAL FEED UNITS ...	39.25	.00	.00	39.25	358.43	.00	358.43	11.02	1.44	3535.86			3946.00
TOTAL WEIGHT	96.62	.00	.00	96.62	597.39	.00	597.39	73.48	7.98	3535.86			4311.33

1972 ROUGHAGE REQUIREMENTS FOR NEW YORK

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			TOTAL	
	IN STATE	EXTRA	OUT STATE	IN STATE	EXTRA	OUT STATE	TOT ALF	CORN	SORGHUM	PASTURE	TOTAL
MILK COWS											
FEED UNITS IN 1000'S		289.18	.00	289.18	1076.41	.00	.00	1076.41	209.18	.00	1284.23
WT IN 1000 MET. TONS	.00	722.24	.00	722.24	1794.02	.00	.00	1794.02	1394.54	.00	1284.23
FU/HEAD IN KILOGRAMS	.00	312.62	.00	312.62	1163.69	.00	.00	1163.69	226.14	.00	1388.36
OTHER DAIRY											
FEED UNITS IN 1000'S	218.69	.00	.00	218.69	65.02	.00	.00	65.02	.00	.00	548.29
WT IN 1000 MET. TONS	546.71	.00	.00	546.71	108.37	.00	.00	108.37	.00	.00	548.29
FU/HEAD IN KILOGRAMS	705.44	.00	.00	705.44	209.75	.00	.00	209.75	.00	.00	1768.68
CATTLE ON FEED											
FEED UNITS IN 1000'S	4.43	2.22	.00	6.65	.00	.00	.00	.00	.00	.00	2.35
WT IN 1000 MET. TONS	10.80	5.41	.00	16.22	.00	.00	.00	.00	.00	.00	2.35
FU/HEAD IN KILOGRAMS	369.17	185.00	.00	554.17	.00	.00	.00	.00	.00	.00	195.83
OTHER BEEF											
FEED UNITS IN 1000'S	164.41	.00	.00	164.41	.00	.00	.00	.00	.00	.00	926.59
WT IN 1000 MET. TONS	401.00	.00	.00	401.00	.00	.00	.00	.00	.00	.00	926.59
FU/HEAD IN KILOGRAMS	310.79	.00	.00	310.79	.00	.00	.00	.00	.00	.00	1751.59
SHEEP ON FEED											
FEED UNITS IN 1000'S	.32	.00	.00	.32	.00	.00	.00	.00	.00	.00	.04
WT IN 1000 MET. TONS	.76	.00	.00	.76	.00	.00	.00	.00	.00	.00	.04
FU/HEAD IN KILOGRAMS	24.62	.00	.00	24.62	.00	.00	.00	.00	.00	.00	3.08
STOCK SHEEP											
FEED UNITS IN 1000'S	1.54	.00	.00	1.54	.00	.00	.00	.00	.00	.00	40.10
WT IN 1000 MET. TONS	3.67	.00	.00	3.67	.00	.00	.00	.00	.00	.00	40.10
FU/HEAD IN KILOGRAMS	17.50	.00	.00	17.50	.00	.00	.00	.00	.00	.00	455.68
HORSES AND MULES											
FEED UNITS IN 1000'S	17.27	13.82	.00	31.09	.00	.00	.00	.00	.00	.00	36.91
WT IN 1000 MET. TONS	43.17	34.55	.00	77.72	.00	.00	.00	.00	.00	.00	36.91
FU/HEAD IN KILOGRAMS	367.45	294.04	.00	661.49	.00	.00	.00	.00	.00	.00	785.32
TOTAL FEED UNITS ...	406.66	305.22	.00	711.87	1141.43	.00	.00	1141.43	209.18	.00	2838.51
TOTAL WEIGHT	1006.12	762.91	.00	1769.03	1902.39	.00	.00	1902.39	1394.54	.00	2838.51

1972 ROUGHAGE REQUIREMENTS FOR NORTH CAROLINA

LIVESTOCK TYPE	HAY		ALFALFA		TOT ALF	SILAGE		PASTURE	TOTAL
	IN STATE	OUT STATE	EXTRA	OUT STATE		CORN	SORGHUM		
MILK COWS									
FEED UNITS IN 1000'S	84.15	.00	.00	.00	13.88	42.27	12.74	284.97	438.00
WT IN 1000 MET. TONS	210.38	.00	.00	.00	23.13	281.77	70.76	284.97	871.01
FU/HEAD IN KILOGRAMS	510.01	.00	.00	.00	84.11	256.15	77.19	1727.08	2654.55
OTHER DAIRY									
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	106.00	106.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	106.00	106.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	2163.27	2163.27
CATTLE ON FEED									
FEED UNITS IN 1000'S	9.36	.00	.00	.00	.00	.00	.00	9.64	19.00
WT IN 1000 MET. TONS	22.83	.00	.00	.00	.00	.00	.00	9.64	32.47
FU/HEAD IN KILOGRAMS	199.15	.00	.00	.00	.00	.00	.00	205.11	404.26
OTHER BEEF									
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	1692.00	1692.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	1692.00	1692.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	2125.63	2125.63
SHEEP ON FEED									
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.05	.05
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.05	.05
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP									
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	5.95	5.95
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	5.95	5.95
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	457.69	457.69
HORSES AND MULES									
FEED UNITS IN 1000'S	44.70	.00	.00	.00	.00	.00	.00	131.30	176.00
WT IN 1000 MET. TONS	111.75	.00	.00	.00	.00	.00	.00	131.30	243.05
FU/HEAD IN KILOGRAMS	296.03	.00	.00	.00	.00	.00	.00	869.54	1165.56
TOTAL FEED UNITS ...	138.21	.00	.00	.00	13.88	42.27	12.74	2229.91	2437.00
TOTAL WEIGHT	344.96	.00	.00	.00	23.13	281.77	70.76	2229.91	2950.53

1972 ROUGHAGE REQUIREMENTS FOR NORTH DAKOTA

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:			SILAGE		PASTURE:	TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:				
MILK COWS													
FEED UNITS IN 1000'S	.00	.00	.00	.00	135.92	54.37	.00	190.29	52.58	.36	117.77	361.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	226.53	90.62	.00	317.15	350.54	2.00	117.77	787.46	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1045.54	418.23	.00	1463.77	404.47	2.77	905.92	2776.92	
OTHER DAIRY													
FEED UNITS IN 1000'S	.00	.00	.00	.00	20.80	10.40	.00	31.20	.00	.00	29.80	61.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	34.67	17.33	.00	52.00	.00	.00	29.80	81.80	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	693.33	346.67	.00	1040.00	.00	.00	993.33	2033.33	
CATTLE ON FEED													
FEED UNITS IN 1000'S	10.34	5.17	.00	15.51	.00	.00	.00	.00	.00	.00	5.49	21.00	
WT IN 1000 MET. TONS	25.22	12.61	.00	37.83	.00	.00	.00	.00	.00	.00	5.49	43.32	
FU/HEAD IN KILOGRAMS	198.85	99.42	.00	298.27	.00	.00	.00	.00	.00	.00	105.58	403.85	
OTHER BEEF													
FEED UNITS IN 1000'S	.00	214.05	.00	214.05	612.44	245.28	.00	857.72	.00	.00	2992.23	4064.00	
WT IN 1000 MET. TONS	.00	522.07	.00	522.07	1020.73	408.90	.00	1429.54	.00	.00	2992.23	4943.83	
FU/HEAD IN KILOGRAMS	.00	99.14	.00	99.14	283.67	113.61	.00	397.28	.00	.00	1385.93	1882.35	
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	1.08	.00	.00	1.08	.00	.00	.14	1.22	
WT IN 1000 MET. TONS	.00	.00	.00	.00	1.80	.00	.00	1.80	.00	.00	.14	1.94	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	10.80	.00	.00	10.80	.00	.00	1.40	12.20	
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	3.91	.00	3.91	5.21	.00	.00	5.21	.00	.00	131.66	140.78	
WT IN 1000 MET. TONS	.00	9.31	.00	9.31	8.68	.00	.00	8.68	.00	.00	131.66	149.65	
FU/HEAD IN KILOGRAMS	.00	12.74	.00	12.74	16.97	.00	.00	16.97	.00	.00	428.86	458.57	
HORSES AND MULES													
FEED UNITS IN 1000'S	15.24	12.19	.00	27.43	.00	.00	.00	.00	.00	.00	32.57	60.00	
WT IN 1000 MET. TONS	38.10	30.48	.00	68.58	.00	.00	.00	.00	.00	.00	32.57	101.15	
FU/HEAD IN KILOGRAMS	258.31	206.61	.00	464.92	.00	.00	.00	.00	.00	.00	552.03	1016.95	
TOTAL FEED UNITS	25.58	235.32	.00	260.90	775.45	310.05	.00	1085.50	52.58	.36	3309.66	4709.00	
TOTAL WEIGHT	63.32	574.46	.00	637.78	1292.42	516.75	.00	1809.17	350.54	2.00	3309.66	6109.15	

1972 ROUGHAGE REQUIREMENTS FOR OHIO

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:	:	:	
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	89.21	.00	717.60	1294.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	594.76	.00	717.60	2124.34	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	203.22	.00	1634.62	2947.61	
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	216.15	328.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	216.15	402.57	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1650.00	2503.82	
CATTLE ON FEED												
FEED UNITS IN 1000'S	27.58	.00	.00	27.58	.00	.00	.00	.00	.00	28.42	56.00	
WT IN 1000 MET. TONS	67.27	.00	.00	67.27	.00	.00	.00	.00	.00	28.42	95.69	
FU/HEAD IN KILOGRAMS	86.19	.00	.00	86.19	.00	.00	.00	.00	.00	88.81	175.00	
OTHER BEEF												
FEED UNITS IN 1000'S	415.70	.00	.00	415.70	.00	.00	.00	.00	.00	2447.68	2882.00	
WT IN 1000 MET. TONS	1013.89	.00	.00	1013.89	.00	.00	.00	.00	.00	2447.68	3492.61	
FU/HEAD IN KILOGRAMS	269.41	.00	.00	269.41	.00	.00	.00	.00	.00	1586.31	1867.79	
SHEEP ON FEED												
FEED UNITS IN 1000'S	2.09	.00	.00	2.09	.00	.00	.00	.00	.00	.28	2.37	
WT IN 1000 MET. TONS	4.98	.00	.00	4.98	.00	.00	.00	.00	.00	.28	5.26	
FU/HEAD IN KILOGRAMS	19.35	.00	.00	19.35	.00	.00	.00	.00	.00	2.59	21.94	
STOCK SHEEP												
FEED UNITS IN 1000'S	6.42	.00	.00	6.42	.00	.00	.00	.00	.00	267.21	273.63	
WT IN 1000 MET. TONS	15.28	.00	.00	15.28	.00	.00	.00	.00	.00	267.21	282.49	
FU/HEAD IN KILOGRAMS	11.38	.00	.00	11.38	.00	.00	.00	.00	.00	473.78	485.16	
HORSES AND MULES ...												
FEED UNITS IN 1000'S	22.10	.00	.00	22.10	.00	.00	.00	.00	.00	64.90	87.00	
WT IN 1000 MET. TONS	55.25	.00	.00	55.25	.00	.00	.00	.00	.00	64.90	120.15	
FU/HEAD IN KILOGRAMS	306.94	.00	.00	306.94	.00	.00	.00	.00	.00	901.39	1208.33	
TOTAL FEED UNITS ...	473.88	.00	.00	473.88	617.66	.00	.00	617.66	.00	3742.24	4923.00	
TOTAL WEIGHT	1156.67	.00	.00	1156.67	1029.44	.00	.00	1029.44	.00	3742.24	6523.11	

1972 ROUGHAGE REQUIREMENTS FOR OKLAHOMA

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:	CORN	SORGHUM:				
MILK COWS															
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
OTHER DAIRY															
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
CATTLE ON FEED															
FEED UNITS IN 1000'S	83.72	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	204.20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	330.91	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
OTHER BEEF															
FEED UNITS IN 1000'S	351.74	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	857.91	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	66.77	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
SHEEP ON FEED															
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP															
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
HORSES AND MULES ...															
FEED UNITS IN 1000'S	26.67	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	66.68	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	306.55	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
TOTAL FEED UNITS ...	462.13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
TOTAL WEIGHT	1128.78	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	

1972 ROUGHAGE REQUIREMENTS FOR OREGON

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:	TOTAL		
MILK COWS												
FEED UNITS IN 1000'S	.00	41.87	.00	41.87	104.67	.00	.00	104.67	14.21	.00	117.25	278.00
WT IN 1000 MET. TONS	.00	104.67	.00	104.67	174.45	.00	.00	174.45	94.71	.00	117.25	491.09
FU/HEAD IN KILOGRAMS	.00	445.43	.00	445.43	1113.51	.00	.00	1113.51	151.13	.00	1247.38	2957.45
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	13.98	.00	13.98	27.96	.00	.00	27.96	.00	.00	40.06	82.00
WT IN 1000 MET. TONS	.00	34.95	.00	34.95	46.60	.00	.00	46.60	.00	.00	40.06	121.61
FU/HEAD IN KILOGRAMS	.00	466.00	.00	466.00	932.00	.00	.00	932.00	.00	.00	1335.33	2733.33
CATTLE ON FEED												
FEED UNITS IN 1000'S	28.56	14.28	.00	42.84	.00	.00	.00	.00	.00	.00	15.16	58.00
WT IN 1000 MET. TONS	69.66	34.83	.00	104.49	.00	.00	.00	.00	.00	.00	15.16	119.65
FU/HEAD IN KILOGRAMS	348.29	174.15	.00	522.44	.00	.00	.00	.00	.00	.00	184.88	707.32
OTHER BEEF												
FEED UNITS IN 1000'S	124.47	18.51	.00	142.98	387.46	.00	.00	387.46	.00	.00	2866.56	3397.00
WT IN 1000 MET. TONS	303.58	45.15	.00	348.73	645.77	.00	.00	645.77	.00	.00	2866.56	3861.06
FU/HEAD IN KILOGRAMS	88.59	13.18	.00	101.76	275.77	.00	.00	275.77	.00	.00	2040.26	2417.79
SHEEP ON FEED												
FEED UNITS IN 1000'S	1.93	.00	.00	1.93	.00	.00	.00	.00	.00	.00	.26	2.19
WT IN 1000 MET. TONS	4.60	.00	.00	4.60	.00	.00	.00	.00	.00	.00	.26	4.26
FU/HEAD IN KILOGRAMS	19.49	.00	.00	19.49	.00	.00	.00	.00	.00	.00	2.63	22.12
STOCK SHEEP												
FEED UNITS IN 1000'S	9.35	.00	.00	9.35	.00	.00	.00	.00	.00	.00	243.46	252.81
WT IN 1000 MET. TONS	22.26	.00	.00	22.26	.00	.00	.00	.00	.00	.00	243.46	265.72
FU/HEAD IN KILOGRAMS	21.95	.00	.00	21.95	.00	.00	.00	.00	.00	.00	571.50	593.45
HORSES AND MULES ...												
FEED UNITS IN 1000'S	16.51	13.21	.00	29.72	.00	.00	.00	.00	.00	.00	35.28	65.00
WT IN 1000 MET. TONS	41.28	33.03	.00	74.30	.00	.00	.00	.00	.00	.00	35.28	109.58
FU/HEAD IN KILOGRAMS	375.23	300.23	.00	675.45	.00	.00	.00	.00	.00	.00	801.82	1477.27
TOTAL FEED UNITS ...	160.82	101.85	.00	282.67	520.09	.00	.00	520.09	14.21	.00	3318.03	4135.00
TOTAL WEIGHT	441.37	252.63	.00	694.00	866.82	.00	.00	866.82	94.71	.00	3318.03	4973.56

1972 ROUGHAGE REQUIREMENTS FOR PENNSYLVANIA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			TOTAL	
	IN STATE	EXTRA	OUT STATE	IN STATE	EXTRA	OUT STATE	TOT ALF	CORN	SORGHUM	PASTURE	
MILK COWS											
FEED UNITS IN 1000'S	.00	264.91	.00	662.26	.00	.00	662.26	156.60	.00	675.23	1759.00
WT IN 1000 MET. TONS	.00	662.28	.00	1103.77	.00	.00	1103.77	1044.00	.00	675.23	3485.27
FU/HEAD IN KILOGRAMS	.00	384.48	.00	961.19	.00	.00	961.19	227.29	.00	980.01	2552.98
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	63.60	.00	127.19	.00	.00	127.19	.00	.00	182.21	373.00
WT IN 1000 MET. TONS	.00	159.00	.00	211.98	.00	.00	211.98	.00	.00	182.21	553.19
FU/HEAD IN KILOGRAMS	.00	318.00	.00	635.95	.00	.00	635.95	.00	.00	911.05	1865.00
CATTLE ON FEED											
FEED UNITS IN 1000'S	21.67	10.84	.00	.00	.00	.00	.00	.00	.00	11.49	44.00
WT IN 1000 MET. TONS	52.85	26.44	.00	.00	.00	.00	.00	.00	.00	11.49	90.78
FU/HEAD IN KILOGRAMS	238.13	119.12	.00	.00	.00	.00	.00	.00	.00	126.26	483.52
OTHER BEEF											
FEED UNITS IN 1000'S	114.43	99.75	.00	91.12	.00	.00	91.12	.00	.00	1058.70	1364.00
WT IN 1000 MET. TONS	279.11	243.29	.00	151.86	.00	.00	151.86	.00	.00	1058.70	1732.96
FU/HEAD IN KILOGRAMS	130.93	114.13	.00	104.25	.00	.00	104.25	.00	.00	1211.33	1560.64
SHEEP ON FEED											
FEED UNITS IN 1000'S	.50	.00	.00	.00	.00	.00	.00	.00	.00	.07	.57
WT IN 1000 MET. TONS	1.19	.00	.00	.00	.00	.00	.00	.00	.00	.07	1.26
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP											
FEED UNITS IN 1000'S	2.42	.00	.00	.00	.00	.00	.00	.00	.00	63.01	65.43
WT IN 1000 MET. TONS	5.76	.00	.00	.00	.00	.00	.00	.00	.00	63.01	68.77
FU/HEAD IN KILOGRAMS	16.13	.00	.00	.00	.00	.00	.00	.00	.00	420.07	436.20
HORSES AND MULES											
FEED UNITS IN 1000'S	13.97	11.18	.00	.00	.00	.00	.00	.00	.00	29.85	55.00
WT IN 1000 MET. TONS	34.93	27.95	.00	.00	.00	.00	.00	.00	.00	29.85	92.73
FU/HEAD IN KILOGRAMS	249.46	199.64	.00	.00	.00	.00	.00	.00	.00	533.04	982.14
TOTAL FEED UNITS ...	152.99	450.28	.00	880.57	.00	.00	880.57	156.60	.00	2020.56	3661.00
TOTAL WEIGHT	373.84	1118.95	.00	1467.61	.00	.00	1467.61	1044.00	.00	2020.56	6024.96

1972 ROUGHAGE REQUIREMENTS FOR RHODE ISLAND

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM			
MILK COWS													
FEEU UNITS IN 1000'S	2.47	.00	.00	2.47	2.86	.00	.00	2.86	1.69	.00	8.99	16.00	
WT IN 1000 MET. TONS	6.18	.00	.00	6.18	4.76	.00	.00	4.76	11.25	.00	8.99	31.17	
FU/HEAD IN KILOGRAMS	352.86	.00	.00	352.86	408.00	.00	.00	408.00	241.07	.00	1283.79	2285.71	
OTHER DAIRY													
FEEU UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.00	4.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.00	4.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2000.00	2000.00	
CATTLE ON FEED													
FEEU UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
OTHER BEEF													
FEEU UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	7.00	7.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	7.00	7.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2333.33	2333.33	
SHEEP ON FEED													
FEEU UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP													
FEEU UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99	.99	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99	.99	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	990.00	990.00	
HORSES AND MULES ...													
FEEU UNITS IN 1000'S	.25	.00	.00	.25	.00	.00	.00	.00	.00	.00	.75	1.00	
WT IN 1000 MET. TONS	.63	.00	.00	.63	.00	.00	.00	.00	.00	.00	.75	1.38	
FU/HEAD IN KILOGRAMS	250.00	.00	.00	250.00	.00	.00	.00	.00	.00	.00	750.00	1000.00	
TOTAL FEED UNITS ...	2.72	.00	.00	2.72	2.86	.00	.00	2.86	1.69	.00	21.74	29.00	
TOTAL WEIGHT	6.80	.00	.00	6.80	4.76	.00	.00	4.76	11.25	.00	21.74	44.55	

1972 ROUGHAGE REQUIREMENTS FOR SOUTH CAROLINA

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF	SILAGE			PASTURE:	TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE		CORN	SORGHUM:			
MILK COWS												
FEED UNITS IN 1000'S	62.88	.00	.00	62.88	.00	.00	.00	9.09	4.44	90.59	167.00	
WT IN 1000 MET. TONS	157.20	.00	.00	157.20	.00	.00	.00	60.60	24.68	90.59	333.07	
FU/HEAD IN KILOGRAMS	998.10	.00	.00	998.10	.00	.00	.00	144.29	70.51	1437.90	2650.79	
OTHER DAIRY												
FEED UNITS IN 1000'S	11.59	.00	.00	11.59	.00	.00	.00	.00	.00	22.41	34.00	
WT IN 1000 MET. TONS	28.98	.00	.00	28.98	.00	.00	.00	.00	.00	22.41	51.39	
FU/HEAD IN KILOGRAMS	772.67	.00	.00	772.67	.00	.00	.00	.00	.00	1494.00	2266.67	
CATTLE ON FEED												
FEED UNITS IN 1000'S	3.94	.00	.00	3.94	.00	.00	.00	.00	.00	4.06	8.00	
WT IN 1000 MET. TONS	9.61	.00	.00	9.61	.00	.00	.00	.00	.00	4.06	13.67	
FU/HEAD IN KILOGRAMS	171.30	.00	.00	171.30	.00	.00	.00	.00	.00	176.52	347.83	
OTHER BEEF												
FEED UNITS IN 1000'S	22.24	.00	.00	22.24	.00	.00	.00	.00	.00	1227.76	1250.00	
WT IN 1000 MET. TONS	54.24	.00	.00	54.24	.00	.00	.00	.00	.00	1227.76	1282.00	
FU/HEAD IN KILOGRAMS	39.36	.00	.00	39.36	.00	.00	.00	.00	.00	2173.03	2212.39	
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99	.99	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99	.99	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	990.00	990.00	
HORSES AND MULES ...												
FEED UNITS IN 1000'S	20.83	.00	.00	20.83	.00	.00	.00	.00	.00	61.17	82.00	
WT IN 1000 MET. TONS	52.07	.00	.00	52.07	.00	.00	.00	.00	.00	61.17	113.25	
FU/HEAD IN KILOGRAMS	297.57	.00	.00	297.57	.00	.00	.00	.00	.00	873.86	1171.43	
TOTAL FEED UNITS ...	121.48	.00	.00	121.48	.00	.00	.00	9.09	4.44	1406.99	1542.00	
TOTAL WEIGHT	302.10	.00	.00	302.10	.00	.00	.00	60.60	24.68	1406.99	1794.37	

1972 ROUGHAGE REQUIREMENTS FOR SOUTH DAKOTA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	OUT STATE	TOT	IN STATE	EXTRA	OUT STATE	TOT	ALF	CORN	SORGHUM	:	
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	177.71	71.08	.00	248.79	153.45	.00	69.76	472.00	
WT IN 1000 MET. TONS	.00	.00	.00	296.18	118.47	.00	414.65	1023.00	.00	69.76	1507.41	
FU/HEAD IN KILOGRAMS	.00	.00	.00	1004.01	401.58	.00	1405.59	866.95	.00	394.12	2666.67	
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	32.05	16.03	.00	48.08	11.54	.00	34.38	94.00	
WT IN 1000 MET. TONS	.00	.00	.00	53.42	26.72	.00	80.13	76.93	.00	34.38	191.45	
FU/HEAD IN KILOGRAMS	.00	.00	.00	712.22	356.22	.00	1068.44	256.44	.00	764.00	2086.89	
CATTLE ON FEED												
FEED UNITS IN 1000'S	69.44	25.55	94.99	.00	.00	.00	.00	28.59	17.42	.00	141.00	
WT IN 1000 MET. TONS	169.37	62.32	231.68	.00	.00	.00	.00	158.85	69.67	.00	460.20	
FU/HEAD IN KILOGRAMS	191.29	70.39	261.68	.00	.00	.00	.00	78.77	47.98	.00	368.43	
OTHER BEEF												
FEED UNITS IN 1000'S	.00	411.84	411.84	1145.17	88.22	.00	1233.39	14.38	.00	5939.39	7599.00	
WT IN 1000 MET. TONS	.00	1004.48	1004.48	1908.62	147.04	.00	2055.65	79.88	.00	5939.39	9079.41	
FU/HEAD IN KILOGRAMS	.00	98.38	98.38	273.57	21.08	.00	294.65	3.43	.00	1418.87	1815.34	
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	4.09	.00	.00	4.09	.00	.00	.55	4.64	
WT IN 1000 MET. TONS	.00	.00	.00	6.82	.00	.00	6.82	.00	.00	.55	7.37	
FU/HEAD IN KILOGRAMS	.00	.00	.00	27.27	.00	.00	27.27	.00	.00	3.67	30.93	
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	19.81	.00	.00	19.81	.00	.00	515.55	535.36	
WT IN 1000 MET. TONS	.00	.00	.00	33.02	.00	.00	33.02	.00	.00	515.55	548.57	
FU/HEAD IN KILOGRAMS	.00	.00	.00	19.21	.00	.00	19.21	.00	.00	500.05	519.26	
HORSES AND MULES ...												
FEED UNITS IN 1000'S	15.75	12.60	28.35	.00	.00	.00	.00	.00	.00	33.65	62.00	
WT IN 1000 MET. TONS	39.37	31.50	70.87	.00	.00	.00	.00	.00	.00	33.65	104.53	
FU/HEAD IN KILOGRAMS	262.50	210.00	472.50	.00	.00	.00	.00	.00	.00	560.83	1033.33	
TOTAL FEED UNITS ...	85.19	449.99	535.18	1378.83	175.33	.00	1554.16	207.96	17.42	6593.28	8908.00	
TOTAL WEIGHT	208.74	1098.30	1307.04	2298.05	292.22	.00	2590.27	1338.66	69.67	6593.28	11898.92	

1972 ROUGHAGE REQUIREMENTS FOR TENNESSEE

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF			SILAGE		PASTURE:	TOTAL
	IN STATE	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF	CORN	SORGHUM:					
MILK COWS													
FEED UNITS IN 1000'S	96.75	.00	96.75	72.67	.00	72.67	39.68	8.23	232.67	450.00			
WT IN 1000 MET. TONS	241.89	.00	241.89	121.11	.00	121.11	264.54	45.72	232.67	905.92			
FU/HEAD IN KILOGRAMS	365.11	.00	365.11	274.21	.00	274.21	149.74	31.06	878.00	1698.11			
OTHER DAIRY													
FEED UNITS IN 1000'S	41.60	.00	41.60	.00	.00	.00	.00	.00	80.40	122.00			
WT IN 1000 MET. TONS	104.00	.00	104.00	.00	.00	.00	.00	.00	80.40	184.40			
FU/HEAD IN KILOGRAMS	507.32	.00	507.32	.00	.00	.00	.00	.00	980.49	1487.80			
CATTLE ON FEED													
FEED UNITS IN 1000'S	1.97	.00	1.97	.00	.00	.00	.00	.00	2.03	4.00			
WT IN 1000 MET. TONS	4.80	.00	4.80	.00	.00	.00	.00	.00	2.03	6.83			
FU/HEAD IN KILOGRAMS	72.96	.00	72.96	.00	.00	.00	.00	.00	75.19	148.15			
OTHER BEEF													
FEED UNITS IN 1000'S	263.67	.00	263.67	.00	.00	.00	.00	.00	3487.33	3751.00			
WT IN 1000 MET. TONS	643.09	.00	643.09	.00	.00	.00	.00	.00	3487.33	4130.42			
FU/HEAD IN KILOGRAMS	124.08	.00	124.08	.00	.00	.00	.00	.00	1641.10	1765.18			
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.09	.09			
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.09	.09			
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	10.91	10.91			
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	10.91	10.91			
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	330.61	330.61			
HORSES AND MULES													
FEED UNITS IN 1000'S	36.58	.00	36.58	.00	.00	.00	.00	.00	107.42	144.00			
WT IN 1000 MET. TONS	91.45	.00	91.45	.00	.00	.00	.00	.00	107.42	198.87			
FU/HEAD IN KILOGRAMS	257.61	.00	257.61	.00	.00	.00	.00	.00	756.48	1014.08			
TOTAL FEED UNITS	440.57	.00	440.57	72.67	.00	72.67	39.68	8.23	3920.85	4462.00			
TOTAL WEIGHT	1085.23	.00	1085.23	121.11	.00	121.11	264.54	45.72	3920.85	5437.45			

1972 ROUGHAGE REQUIREMENTS FOR TEXAS

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF			SILAGE		PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF	CORN	SORGHUM:	CORN	SORGHUM:			
MILK COWS														
FEED UNITS IN 1000'S	1.88	.00	.00	1.88	285.77	.00	.00	37.01	31.45	407.88	764.00			
WT IN 1000 MET. TONS	4.71	.00	.00	4.71	476.28	.00	.00	246.76	174.73	407.88	1310.36			
FU/HEAD IN KILOGRAMS	5.30	.00	.00	5.30	804.98	.00	.00	104.26	88.60	1148.97	2152.11			
OTHER DAIRY														
FEED UNITS IN 1000'S	75.70	.00	.00	75.70	.00	.00	.00	.00	.00	146.30	222.00			
WT IN 1000 MET. TONS	189.25	.00	.00	189.25	.00	.00	.00	.00	.00	146.30	335.55			
FU/HEAD IN KILOGRAMS	700.93	.00	.00	700.93	.00	.00	.00	.00	.00	1354.63	2055.56			
CATTLE ON FEED														
FEED UNITS IN 1000'S	593.46	.00	.00	593.46	.00	.00	.00	.00	.00	611.54	1205.00			
WT IN 1000 MET. TONS	1447.46	.00	.00	1447.46	.00	.00	.00	.00	.00	611.54	2059.00			
FU/HEAD IN KILOGRAMS	333.22	.00	.00	333.22	.00	.00	.00	.00	.00	343.37	676.59			
OTHER BEEF														
FEED UNITS IN 1000'S	215.61	.00	.00	215.61	.00	.00	.00	.00	.00	2511.39	25327.00			
WT IN 1000 MET. TONS	525.68	.00	.00	525.88	.00	.00	.00	.00	.00	2511.39	25837.27			
FU/HEAD IN KILOGRAMS	16.58	.00	.00	16.58	.00	.00	.00	.00	.00	1931.50	1946.08			
SHEEP ON FEED														
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	21.65	21.65			
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	21.65	21.65			
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	54.26	54.26			
STOCK SHEEP														
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	2496.35	2496.35			
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	2496.35	2496.35			
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	798.83	798.83			
HORSES AND MULES														
FEED UNITS IN 1000'S	62.23	.00	.00	62.23	.00	.00	.00	.00	.00	182.77	245.00			
WT IN 1000 MET. TONS	155.57	.00	.00	155.57	.00	.00	.00	.00	.00	182.77	338.35			
FU/HEAD IN KILOGRAMS	264.81	.00	.00	264.81	.00	.00	.00	.00	.00	777.74	1042.55			
TOTAL FEED UNITS ...	948.88	.00	.00	948.88	285.77	.00	.00	37.01	31.45	28977.89	30281.00			
TOTAL WEIGHT	2322.87	.00	.00	2322.87	476.28	.00	.00	246.76	174.73	28977.89	32198.53			

1972 ROUGHAGE REQUIREMENTS FOR UTAH

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:			
MILK COWS													
FEED UNITS IN 1000'S	.00	.00	.00	.00	99.02	39.61	.00	138.63	26.67	.00	97.70	263.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	145.03	66.02	.00	231.05	177.81	.00	97.70	506.56	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1253.42	501.39	.00	1754.81	337.61	.00	1236.69	3329.11	
OTHER DAIRY													
FEED UNITS IN 1000'S	.00	.00	.00	.00	36.49	18.24	.00	54.73	.00	.00	52.27	107.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	60.82	30.40	.00	91.22	.00	.00	52.27	143.49	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	848.60	424.19	.00	1272.79	.00	.00	1215.58	2488.37	
CATTLE ON FEED													
FEED UNITS IN 1000'S	22.65	11.33	.00	33.98	.00	.00	.00	.00	.00	.00	12.02	46.00	
WT IN 1000 MET. TONS	55.24	27.63	.00	82.88	.00	.00	.00	.00	.00	.00	12.02	94.90	
FU/HEAD IN KILOGRAMS	411.82	206.00	.00	617.82	.00	.00	.00	.00	.00	.00	218.55	836.36	
OTHER BEEF													
FEED UNITS IN 1000'S	.00	8.01	.00	8.01	232.08	114.18	.00	346.26	.00	.00	1185.73	1540.00	
WT IN 1000 MET. TONS	.00	19.53	.00	19.53	386.80	190.30	.00	577.10	.00	.00	1185.73	1782.36	
FU/HEAD IN KILOGRAMS	.00	11.28	.00	11.28	326.87	160.81	.00	487.69	.00	.00	1670.05	2163.01	
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	3.58	.00	.00	3.58	.00	.00	.48	4.06	
WT IN 1000 MET. TONS	.00	.00	.00	.00	5.97	.00	.00	5.97	.00	.00	.48	6.45	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	42.12	.00	.00	42.12	.00	.00	5.65	47.76	
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	17.31	.00	.00	17.31	.00	.00	450.63	467.94	
WT IN 1000 MET. TONS	.00	.00	.00	.00	28.85	.00	.00	28.85	.00	.00	450.63	479.48	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	19.43	.00	.00	19.43	.00	.00	505.76	525.19	
HORSES AND MULES ...													
FEED UNITS IN 1000'S	9.14	7.32	.00	16.46	.00	.00	.00	.00	.00	.00	19.54	36.00	
WT IN 1000 MET. TONS	22.85	18.30	.00	41.15	.00	.00	.00	.00	.00	.00	19.54	60.69	
FU/HEAD IN KILOGRAMS	294.84	236.13	.00	530.97	.00	.00	.00	.00	.00	.00	630.32	1161.29	
TOTAL FEED UNITS ...	31.79	26.66	.00	58.45	388.48	172.03	.00	560.51	26.67	.00	1818.37	2464.00	
TOTAL WEIGHT	78.09	65.47	.00	143.56	647.47	286.71	.00	934.18	177.81	.00	1818.37	3073.92	

1972 ROUGHAGE REQUIREMENTS FOR VERMONT

LIVESTOCK TYPE	HAY		ALFALFA		TOT ALF	SILAGE		PASTURE	TOTAL
	IN STATE	EXTRA	OUT STATE	EXTRA		CORN	SORGHUM		
MILK COWS									
FEED UNITS IN 1000'S	60.85	63.81	.00	.00	127.78	33.97	.00	214.60	501.00
WT IN 1000 MET. TONS	152.14	159.52	.00	.00	212.96	226.44	.00	214.60	965.65
FU/HEAD IN KILOGRAMS	312.07	327.22	.00	.00	655.26	174.18	.00	1100.49	2569.23
OTHER DAIRY									
FEED UNITS IN 1000'S	38.53	.00	.00	.00	.00	.00	.00	74.47	113.00
WT IN 1000 MET. TONS	96.33	.00	.00	.00	.00	.00	.00	74.47	170.80
FU/HEAD IN KILOGRAMS	642.17	.00	.00	.00	.00	.00	.00	1241.17	1883.33
CATTLE ON FEED									
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00
OTHER BEEF									
FEED UNITS IN 1000'S	17.93	.00	.00	.00	.00	.00	.00	101.07	119.00
WT IN 1000 MET. TONS	43.73	.00	.00	.00	.00	.00	.00	101.07	144.80
FU/HEAD IN KILOGRAMS	213.45	.00	.00	.00	.00	.00	.00	1203.21	1416.67
SHEEP ON FEED									
FEED UNITS IN 1000'S	.02	.00	.00	.00	.00	.00	.00	.00	.02
WT IN 1000 MET. TONS	.05	.00	.00	.00	.00	.00	.00	.00	.05
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP									
FEED UNITS IN 1000'S	.07	.00	.00	.00	.00	.00	.00	1.91	1.98
WT IN 1000 MET. TONS	.17	.00	.00	.00	.00	.00	.00	1.91	2.08
FU/HEAD IN KILOGRAMS	11.67	.00	.00	.00	.00	.00	.00	318.33	330.00
HORSES AND MULES									
FEED UNITS IN 1000'S	2.54	2.03	.00	.00	.00	.00	.00	5.43	10.00
WT IN 1000 MET. TONS	6.35	5.07	.00	.00	.00	.00	.00	5.43	16.86
FU/HEAD IN KILOGRAMS	254.00	203.00	.00	.00	.00	.00	.00	543.00	1000.00
TOTAL FEED UNITS ...	119.94	65.84	.00	.00	127.78	33.97	.00	397.48	745.00
TOTAL WEIGHT	298.76	164.59	.00	.00	212.96	226.44	.00	397.48	1300.23

1972 ROUGHAGE REQUIREMENTS FOR VIRGINIA

LIVESTOCK TYPE	HAY		ALFALFA		TOT ALF	SILAGE		PASTURE	TOTAL
	IN STATE	OUT STATE	TOT HAY:IN STATE	EXTRA OUT STATE		CORN	SORGHUM		
MILK COWS									
FEED UNITS IN 1000'S	98.84	.00	98.84	.00	94.30	86.87	6.24	226.75	513.00
WT IN 1000 MET. TONS	247.09	.00	247.09	.00	157.17	579.15	34.65	226.75	1244.82
FU/HEAD IN KILOGRAMS	543.07	.00	543.07	.00	518.14	477.32	34.27	1245.88	2318.68
OTHER DAIRY									
FEED UNITS IN 1000'S	56.61	.00	56.61	.00	.00	.00	.00	109.39	166.00
WT IN 1000 MET. TONS	141.52	.00	141.52	.00	.00	.00	.00	109.39	250.92
FU/HEAD IN KILOGRAMS	832.50	.00	832.50	.00	.00	.00	.00	1608.68	2441.18
CATTLE ON FEED									
FEED UNITS IN 1000'S	5.42	.00	5.42	.00	.00	.00	.00	5.58	11.00
WT IN 1000 MET. TONS	13.22	.00	13.22	.00	.00	.00	.00	5.58	18.80
FU/HEAD IN KILOGRAMS	146.49	.00	146.49	.00	.00	.00	.00	150.81	297.30
OTHER BEEF									
FEED UNITS IN 1000'S	205.86	.00	205.86	.00	.00	.00	.00	3159.14	3365.00
WT IN 1000 MET. TONS	502.10	.00	502.10	.00	.00	.00	.00	3159.14	3661.24
FU/HEAD IN KILOGRAMS	164.03	.00	164.03	.00	.00	.00	.00	2517.24	2681.27
SHEEP ON FEED									
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.95	.95
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.95	.95
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP									
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	110.05	110.05
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	110.05	110.05
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	621.75	621.75
HORSES AND MULES									
FEED UNITS IN 1000'S	32.51	.00	32.51	.00	.00	.00	.00	95.49	127.99
WT IN 1000 MET. TONS	81.28	.00	81.28	.00	.00	.00	.00	95.49	176.77
FU/HEAD IN KILOGRAMS	373.68	.00	373.68	.00	.00	.00	.00	1097.59	1471.26
TOTAL FEED UNITS	399.24	.00	399.24	.00	.00	86.87	6.24	3707.35	4294.00
TOTAL WEIGHT	985.21	.00	985.21	.00	157.17	579.15	34.65	3707.35	5463.53

1972 ROUGHAGE REQUIREMENTS FOR WASHINGTON

LIVESTOCK TYPE	HAY		ALFALFA		TOT ALF:		SILAGE		PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:		
MILK COWS											
FEED UNITS IN 1000'S	.00	.00	.00	.00	204.44	81.78	.00	286.22	27.76	.00	229.02
WT IN 1000 MET. TONS	.00	.00	.00	.00	340.73	136.30	.00	477.03	185.07	.00	229.02
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1123.30	449.34	.00	1572.64	152.53	.00	1258.35
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	.00	.00	.00	49.79	24.89	.00	74.68	.00	.00	71.32
WT IN 1000 MET. TONS	.00	.00	.00	.00	82.98	41.48	.00	124.47	.00	.00	71.32
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	816.23	408.03	.00	1224.26	.00	.00	1169.18
CATTLE ON FEED											
FEED UNITS IN 1000'S	63.04	31.52	.00	94.56	.00	.00	.00	.00	.00	.00	33.44
WT IN 1000 MET. TONS	153.76	76.88	.00	230.63	.00	.00	.00	.00	.00	.00	33.44
FU/HEAD IN KILOGRAMS	375.24	187.62	.00	562.86	.00	.00	.00	.00	.00	.00	199.05
OTHER BEEF											
FEED UNITS IN 1000'S	.00	72.86	.00	72.86	277.29	81.68	.00	358.97	.00	.00	1408.17
WT IN 1000 MET. TONS	.00	177.70	.00	177.70	462.15	136.14	.00	598.29	.00	.00	1408.17
FU/HEAD IN KILOGRAMS	.00	65.11	.00	65.11	247.80	73.00	.00	320.80	.00	.00	1256.42
SHEEP ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.39	.00	.00	.39	.00	.00	.06
WT IN 1000 MET. TONS	.00	.00	.00	.00	.65	.00	.00	.65	.00	.00	.06
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	15.60	.00	.00	15.60	.00	.00	2.40
STOCK SHEEP											
FEED UNITS IN 1000'S	.00	.00	.00	.00	1.91	.00	.00	1.91	.00	.00	49.64
WT IN 1000 MET. TONS	.00	.00	.00	.00	3.18	.00	.00	3.18	.00	.00	49.64
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	17.05	.00	.00	17.05	.00	.00	443.21
HORSES AND MULES											
FEED UNITS IN 1000'S	10.41	8.33	.00	18.74	.00	.00	.00	.00	.00	.00	22.26
WT IN 1000 MET. TONS	26.02	20.83	.00	46.85	.00	.00	.00	.00	.00	.00	22.26
FU/HEAD IN KILOGRAMS	281.35	225.14	.00	506.49	.00	.00	.00	.00	.00	.00	601.62
TOTAL FEED UNITS ...	73.45	112.71	.00	186.16	533.82	188.35	.00	722.17	27.76	.00	1813.91
TOTAL WEIGHT	179.78	275.40	.00	455.18	889.70	313.92	.00	1203.62	185.07	.00	1813.91

1972 ROUGHAGE REQUIREMENTS FOR WEST VIRGINIA

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF			SILAGE			PASTURE: TOTAL		
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF	CORN	SORGHUM:	CORN	SORGHUM:				
MILK COWS															
FEED UNITS IN 1000'S	.00	18.22	.00	19.22	45.56	.00	.00	45.56	.00	15.51	.00	41.71	121.00		
WT IN 1000 MET. TONS	.00	45.55	.00	45.55	75.93	.00	.00	75.93	.00	103.42	.00	41.71	266.61		
FU/HEAD IN KILOGRAMS	.00	414.09	.00	414.09	1035.45	.00	.00	1035.45	.00	352.57	.00	947.89	2750.00		
OTHER DAIRY															
FEED UNITS IN 1000'S	.00	5.11	.00	5.11	10.23	.00	.00	10.23	.00	.00	.00	14.66	30.00		
WT IN 1000 MET. TONS	.00	12.77	.00	12.77	17.05	.00	.00	17.05	.00	.00	.00	14.66	44.49		
FU/HEAD IN KILOGRAMS	.00	365.00	.00	365.00	730.71	.00	.00	730.71	.00	.00	.00	1047.14	2142.86		
CATTLE ON FEED															
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
OTHER BEEF															
FEED UNITS IN 1000'S	108.96	45.45	.00	154.41	26.67	.00	.00	26.67	.00	.00	.00	718.92	900.00		
WT IN 1000 MET. TONS	265.75	110.86	.00	376.61	44.46	.00	.00	44.46	.00	.00	.00	718.92	1139.98		
FU/HEAD IN KILOGRAMS	255.17	106.45	.00	361.61	62.47	.00	.00	62.47	.00	.00	.00	1683.65	2107.73		
SHEEP ON FEED															
FEED UNITS IN 1000'S	.52	.00	.00	.52	.00	.00	.00	.00	.00	.00	.00	.06	.58		
WT IN 1000 MET. TONS	1.24	.00	.00	1.24	.00	.00	.00	.00	.00	.00	.00	.06	1.30		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00		
STOCK SHEEP															
FEED UNITS IN 1000'S	2.49	.00	.00	2.49	.00	.00	.00	.00	.00	.00	.00	64.93	67.42		
WT IN 1000 MET. TONS	5.93	.00	.00	5.93	.00	.00	.00	.00	.00	.00	.00	64.93	70.86		
FU/HEAD IN KILOGRAMS	15.37	.00	.00	15.37	.00	.00	.00	.00	.00	.00	.00	400.80	416.17		
HORSES AND MULES ...															
FEED UNITS IN 1000'S	10.92	8.74	.00	19.66	.00	.00	.00	.00	.00	.00	.00	.00	43.00		
WT IN 1000 MET. TONS	27.30	21.85	.00	49.15	.00	.00	.00	.00	.00	.00	.00	23.34	72.49		
FU/HEAD IN KILOGRAMS	280.00	224.10	.00	504.10	.00	.00	.00	.00	.00	.00	.00	598.46	1102.56		
TOTAL FEED UNITS ...	122.89	77.52	.00	200.41	82.46	.00	.00	82.46	.00	15.51	.00	863.61	1162.00		
TOTAL WEIGHT	300.21	191.04	.00	491.25	137.44	.00	.00	137.44	.00	103.42	.00	863.61	1595.72		

1972 ROUGHAGE REQUIREMENTS FOR WISCONSIN

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:			
MILK COWS												
FEED UNITS IN 1000'S	.00	544.30	.00	544.30	2269.92	341.00	.00	2610.92	.00	2860.72	6029.00	
WT IN 1000 MET. TONS	.00	1360.75	.00	1360.75	3783.20	568.34	.00	4351.54	.00	2860.72	9660.09	
FU/HEAD IN KILOGRAMS	.00	297.11	.00	297.11	1239.04	186.14	.00	1425.18	.00	1561.53	3290.94	
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	554.47	.00	.00	554.47	.00	1071.53	1626.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	924.12	.00	.00	924.12	.00	1071.53	1995.65	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	813.01	.00	.00	813.01	.00	1571.16	2364.16	
CATTLE ON FEED												
FEED UNITS IN 1000'S	12.80	6.40	.00	19.20	.30	.00	.00	.00	.00	6.80	26.00	
WT IN 1000 MET. TONS	31.22	15.61	.00	46.83	.00	.00	.00	.00	.00	6.80	53.63	
FU/HEAD IN KILOGRAMS	88.89	44.44	.00	133.33	.00	.00	.00	.00	.00	47.22	166.56	
OTHER BEEF												
FEED UNITS IN 1000'S	.00	.00	.00	.00	465.66	.00	.00	465.66	.00	2624.34	3090.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	776.10	.00	.00	776.10	.00	2624.34	3400.44	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	269.64	.00	.00	269.64	.00	1519.59	1769.23	
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.39	.00	.00	.39	.00	.05	.44	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.65	.00	.00	.65	.00	.05	.70	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	18.57	.00	.00	18.57	.00	2.38	20.95	
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	1.87	.00	.00	1.87	.00	48.69	50.56	
WT IN 1000 MET. TONS	.00	.00	.00	.00	3.12	.00	.00	3.12	.00	48.69	51.81	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	15.58	.00	.00	15.58	.00	405.75	421.33	
HORSES AND MULES												
FEED UNITS IN 1000'S	17.27	13.82	.00	31.09	.00	.00	.00	.00	.00	36.91	69.00	
WT IN 1000 MET. TONS	43.17	34.55	.00	77.72	.00	.00	.00	.00	.00	36.91	114.64	
FU/HEAD IN KILOGRAMS	297.76	238.28	.00	536.03	.00	.00	.00	.00	.00	636.38	1172.41	
TOTAL FEED UNITS ...	30.07	564.52	.00	594.59	3292.31	341.00	.00	3633.31	.00	6649.04	10890.00	
TOTAL WEIGHT	74.39	1410.91	.00	1485.30	5487.18	568.34	.00	6055.52	.00	6649.04	14276.95	

1972 ROUGHAGE REQUIREMENTS FOR WYOMING

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:			TOTAL
	IN STATE	EXTRA	OUT STATE	TOI HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:				
MILK COWS													
FEED UNITS IN 1000'S	.00	7.08	.00	7.08	17.70	.00	17.70	13.23	.00	8.99		47.00	
WT IN 1000 MET. TONS	.00	17.70	.00	17.70	29.50	.00	29.50	88.18	.00	8.99		144.37	
FU/HEAD IN KILOGRAMS	.00	472.00	.00	472.00	1180.00	.00	1180.00	881.80	.00	599.53		3133.33	
OTHER DAIRY													
FEED UNITS IN 1000'S	.00	1.36	.00	1.36	2.73	.00	2.73	.00	.00	3.91		8.00	
WT IN 1000 MET. TONS	.00	3.40	.00	3.40	4.55	.00	4.55	.00	.00	3.91		11.86	
FU/HEAD IN KILOGRAMS	.00	340.00	.00	340.00	682.50	.00	682.50	.00	.00	977.50		2000.00	
CATTLE ON FEED													
FEED UNITS IN 1000'S	5.42	2.71	.00	8.13	.00	.00	.00	.00	.00	2.87		11.00	
WT IN 1000 MET. TONS	13.22	6.61	.00	19.83	.00	.00	.00	.00	.00	2.87		22.70	
FU/HEAD IN KILOGRAMS	146.49	73.24	.00	219.73	.00	.00	.00	.00	.00	77.57		297.30	
OTHER BEEF													
FEED UNITS IN 1000'S	101.57	11.42	.00	112.99	409.45	.00	409.45	.00	.00	2868.56		3391.00	
WT IN 1000 MET. TONS	247.74	27.85	.00	275.59	682.41	.00	682.41	.00	.00	2868.56		3826.56	
FU/HEAD IN KILOGRAMS	66.34	7.46	.00	73.80	267.44	.00	267.44	.00	.00	1873.65		2214.89	
SHEEP ON FEED													
FEED UNITS IN 1000'S	8.70	.00	.00	8.70	.00	.00	.00	.00	.00	1.16		9.86	
WT IN 1000 MET. TONS	20.71	.00	.00	20.71	.00	.00	.00	.00	.00	1.16		21.87	
FU/HEAD IN KILOGRAMS	50.00	.00	.00	50.00	.00	.00	.00	.00	.00	6.67		56.67	
STOCK SHEEP													
FEED UNITS IN 1000'S	42.07	.00	.00	42.07	.00	.00	.00	.00	.00	1095.07		1137.14	
WT IN 1000 MET. TONS	100.17	.00	.00	100.17	.00	.00	.00	.00	.00	1095.07		1195.24	
FU/HEAD IN KILOGRAMS	26.95	.00	.00	26.95	.00	.00	.00	.00	.00	701.52		728.47	
HORSES AND MULES													
FEED UNITS IN 1000'S	14.99	11.99	.00	26.98	.00	.00	.00	.00	.00	32.02		59.00	
WT IN 1000 MET. TONS	37.47	29.97	.00	67.45	.00	.00	.00	.00	.00	32.02		99.47	
FU/HEAD IN KILOGRAMS	293.92	235.10	.00	529.02	.00	.00	.00	.00	.00	627.84		1156.86	
TOTAL FEED UNITS ...	172.75	34.56	.00	207.31	429.88	.00	429.88	13.23	.00	4012.59		4663.00	
TOTAL WEIGHT	419.32	85.53	.00	504.85	716.46	.00	716.46	88.18	.00	4012.59		5322.08	

1972 ROUGHAGE REQUIREMENTS FOR UNITED STATES

LIVESTOCK TYPE	HAY		ALFALFA		SILAGE		TOTAL
	IN STATE	OUT STATE	IN STATE	OUT STATE	CORN	SORGHUM	
MILK COWS							
FEED UNITS IN 1000'S	2373.94	.00	12932.39	.00	2573.78	206.60	33164.00
WT IN 1000 MET. TONS	5934.85	.00	21553.98	.00	17158.54	1147.77	60372.43
AVE. FU/HEAD IN KG.	210.66	.00	1147.61	.00	228.39	18.33	2942.94
OTHER DAIRY							
FEED UNITS IN 1000'S	742.80	.00	2565.75	.00	31.06	14.74	5332.65
WT IN 1000 MET. TONS	1857.00	.00	4276.25	.00	207.07	81.89	5332.65
AVE. FU/HEAD IN KG.	201.96	.00	697.59	.00	8.44	4.01	1449.88
CATTLE ON FEED							
FEED UNITS IN 1000'S	2988.26	.00	.00	.00	80.61	190.09	3287.04
WT IN 1000 MET. TONS	7286.44	.00	.00	.00	447.84	760.36	11783.68
AVE. FU/HEAD IN KG.	250.00	.00	.00	.00	6.74	15.90	547.64
OTHER BEEF							
FEED UNITS IN 1000'S	6813.56	.00	15699.72	.00	14.38	.00	166718.00
WT IN 1000 MET. TONS	16618.44	.00	26166.20	.00	79.88	.00	207054.86
AVE. FU/HEAD IN KG.	75.17	.00	173.20	.00	.16	.00	2059.93
SHEEP ON FEED							
FEED UNITS IN 1000'S	14.15	.00	23.82	.00	.00	.00	79.95
WT IN 1000 MET. TONS	33.69	.00	39.70	.00	.00	.00	115.37
AVE. FU/HEAD IN KG.	5.30	.00	8.92	.00	.00	.00	29.96
STOCK SHEEP							
FEED UNITS IN 1000'S	68.56	.00	124.93	.00	.00	.00	9220.04
WT IN 1000 MET. TONS	163.24	.00	208.22	.00	.00	.00	9398.00
AVE. FU/HEAD IN KG.	4.44	.00	8.10	.00	.00	.00	597.69
HORSES AND MULES ...							
FEED UNITS IN 1000'S	1016.75	.00	.00	.00	.00	.00	3263.00
WT IN 1000 MET. TONS	2541.87	.00	.00	.00	.00	.00	4788.13
AVE. FU/HEAD IN KG.	359.66	.00	.00	.00	.00	.00	1154.23
TOTAL FEED UNITS ...	14018.02	.00	31346.61	.00	2699.83	411.43	247677.99
TOTAL WEIGHT	34437.53	.00	52244.35	.00	17893.33	1990.02	305767.33

1973 ROUGHAGE REQUIREMENTS FOR ALABAMA

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF			CORN		SORGHUM		PASTURE		TOTAL
	IN STATE	EXTRA	OUT STATE	IN STATE	EXTRA	OUT STATE	IN STATE	EXTRA	OUT STATE	IN STATE	EXTRA	IN STATE	EXTRA	IN STATE	EXTRA	
MILK COWS																
FEED UNITS IN 1000'S	70.42	.00	.00	70.42	.00	.00	3.26	.00	.00	14.97	.00	4.47	.00	100.88	.00	194.00
WT IN 1000 MET. TONS	176.04	.00	.00	176.04	.00	.00	5.44	.00	.00	99.79	.00	24.86	.00	100.88	.00	407.01
FU/HEAD IN KILOGRAMS	612.31	.00	.00	612.31	.00	.00	28.38	.00	.00	130.16	.00	38.91	.00	877.19	.00	1686.96
OTHER DAIRY																
FEED UNITS IN 1000'S	17.03	.00	.00	17.03	.00	.00	.00	.00	.00	.00	.00	.00	.00	32.97	.00	50.00
WT IN 1000 MET. TONS	42.57	.00	.00	42.57	.00	.00	.00	.00	.00	.00	.00	.00	.00	32.97	.00	75.55
FU/HEAD IN KILOGRAMS	436.67	.00	.00	436.67	.00	.00	.00	.00	.00	.00	.00	.00	.00	845.38	.00	1282.05
CATTLE ON FEED																
FEED UNITS IN 1000'S	9.92	.00	.00	9.92	.00	.00	.00	.00	.00	.00	.00	.00	.00	10.08	.00	20.00
WT IN 1000 MET. TONS	24.20	.00	.00	24.20	.00	.00	.00	.00	.00	.00	.00	.00	.00	10.08	.00	34.28
FU/HEAD IN KILOGRAMS	268.11	.00	.00	268.11	.00	.00	.00	.00	.00	.00	.00	.00	.00	272.43	.00	540.54
OTHER BEEF																
FEED UNITS IN 1000'S	103.23	.00	.00	103.23	.00	.00	.00	.00	.00	.00	.00	.00	.00	2901.77	.00	3005.00
WT IN 1000 MET. TONS	251.79	.00	.00	251.79	.00	.00	.00	.00	.00	.00	.00	.00	.00	2901.77	.00	3153.56
FU/HEAD IN KILOGRAMS	52.72	.00	.00	52.72	.00	.00	.00	.00	.00	.00	.00	.00	.00	1482.01	.00	1534.73
SHEEP ON FEED																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.02
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.02
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.98	.00	1.98
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.98	.00	1.98
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	396.00	.00	396.00
HORSES AND MULES																
FEED UNITS IN 1000'S	21.52	.00	.00	21.52	.00	.00	.00	.00	.00	.00	.00	.00	.00	62.48	.00	84.00
WT IN 1000 MET. TONS	53.80	.00	.00	53.80	.00	.00	.00	.00	.00	.00	.00	.00	.00	62.48	.00	116.28
FU/HEAD IN KILOGRAMS	221.86	.00	.00	221.86	.00	.00	.00	.00	.00	.00	.00	.00	.00	644.12	.00	865.98
TOTAL FEED UNITS ...	222.12	.00	.00	222.12	.00	.00	3.26	.00	.00	14.97	.00	4.47	.00	3110.17	.00	3355.00
TOTAL WEIGHT	548.40	.00	.00	548.40	.00	.00	5.44	.00	.00	99.79	.00	24.86	.00	3110.17	.00	3788.66

1973 ROUGHAGE REQUIREMENTS FOR ARIZONA

LIVESTOCK TYPE	PAY			ALFALFA			TOT ALF			SILAGE			PASTURE: TOTAL		
	IN STATE	EXTRA	OUT STATE	TOT	HAY:IN STATE	EXTRA	OUT STATE	TOT	ALF	CORN	SORGHUM				
MILK COWS															
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	70.26	28.11	.00	98.37	5.39	4.11	77.13	185.00		
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	117.10	46.85	.00	163.95	35.92	22.86	77.13	299.86		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	1325.66	530.38	.00	1856.04	101.66	77.64	1455.23	3490.57		
OTHER DAIRY															
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	12.27	6.13	.00	18.40	.00	.00	17.60	36.00		
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	20.45	10.22	.00	30.67	.00	.00	17.60	48.27		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	943.85	471.54	.00	1415.38	.00	.00	1353.85	2769.23		
CATTLE ON FEED															
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	480.00	480.00		
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	480.00	480.00		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	732.82	732.82		
OTHER BEEF															
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	235.96	155.45	.00	391.41	.00	.00	1179.59	1571.00		
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	393.27	259.09	.00	652.35	.00	.00	1179.59	1831.94		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	174.27	114.81	.00	289.08	.00	.00	871.19	1167.27		
SHEEP ON FEED															
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	2.11	.00	.00	2.11	.00	.00	.26	2.37		
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	3.52	.00	.00	3.52	.00	.00	.26	3.78		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	19.18	.00	.00	19.18	.00	.00	2.36	21.55		
STOCK SHEEP															
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	7.76	.00	.00	7.76	.00	.00	201.87	209.63		
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	12.93	.00	.00	12.93	.00	.00	201.87	214.80		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	19.80	.00	.00	19.80	.00	.00	514.97	534.77		
HORSES AND MULES															
FEED UNITS IN 1000'S	28.03	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	103.97	132.00		
WT IN 1000 MET. TONS	70.08	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	103.97	174.05		
FU/HEAD IN KILOGRAMS	528.91	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1961.66	2490.57		
TOTAL FEED UNITS	28.03	.00	.00	.00	.00	328.36	189.69	.00	518.05	5.39	4.11	2060.41	2616.00		
TOTAL WEIGHT	70.08	.00	.00	.00	.00	547.27	316.15	.00	863.42	35.92	22.86	2060.41	3052.69		

1973 ROUGHAGE REQUIREMENTS FOR ARKANSAS

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF	SILAGE		PASTURE	TOTAL
	IN STATE	OUT STATE	TOT HAY	IN STATE	EXTRA	OUT STATE		CORN	SORGHUM		
MILK COWS											
FEED UNITS IN 1000'S	.00	.00	.00	75.58	.00	.00	75.58	1.91	7.54	113.97	199.00
WT IN 1000 MET. TONS	.00	.00	.00	125.97	.00	.00	125.97	12.70	41.91	113.97	294.55
FU/HEAD IN KILOGRAMS	.00	.00	.00	787.29	.00	.00	787.29	19.84	78.58	1187.20	2072.92
OTHER DAIRY											
FEED UNITS IN 1000'S	17.37	.00	17.37	.35	.00	.00	.35	.00	.00	34.28	52.00
WT IN 1000 MET. TONS	43.42	.00	43.42	.58	.00	.00	.58	.00	.00	34.28	78.29
FU/HEAD IN KILOGRAMS	620.36	.00	620.36	12.50	.00	.00	12.50	.00	.00	1224.29	1857.14
CATTLE ON FEED											
FEED UNITS IN 1000'S	7.44	.00	7.44	.00	.00	.00	.00	.00	.00	7.56	15.00
WT IN 1000 MET. TONS	18.15	.00	18.15	.00	.00	.00	.00	.00	.00	7.56	25.71
FU/HEAD IN KILOGRAMS	413.33	.00	413.33	.00	.00	.00	.00	.00	.00	420.00	833.33
OTHER BEEF											
FEED UNITS IN 1000'S	214.68	.00	214.68	.00	.00	.00	.00	.00	.00	3388.32	3603.00
WT IN 1000 MET. TONS	523.60	.00	523.60	.00	.00	.00	.00	.00	.00	3388.32	3911.92
FU/HEAD IN KILOGRAMS	112.75	.00	112.75	.00	.00	.00	.00	.00	.00	1779.58	1892.33
SHEEP ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.03
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.03
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.97	2.97
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.97	2.97
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	495.00	495.00
HORSES AND MULES ...											
FEED UNITS IN 1000'S	30.74	.00	30.74	.00	.00	.00	.00	.00	.00	89.26	120.00
WT IN 1000 MET. TONS	76.85	.00	76.85	.00	.00	.00	.00	.00	.00	89.26	166.11
FU/HEAD IN KILOGRAMS	384.25	.00	384.25	.00	.00	.00	.00	.00	.00	1115.75	1500.00
TOTAL FEED UNITS ...	270.23	.00	270.23	75.93	.00	.00	75.93	1.91	7.54	3636.40	3992.00
TOTAL WEIGHT	662.02	.00	662.02	126.55	.00	.00	126.55	12.70	41.91	3636.40	4479.58

1973 ROUGHAGE REQUIREMENTS FOR CALIFORNIA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE		TOTAL
	IN STATE	OUT STATE	TOT	IN STATE	EXTRA	OUT STATE	TOT	ALF	CORN	SORGHUM		
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	1018.24	407.30	.00	1425.54	.00	73.78	8.88	1172.80	2681.00
WT IN 1000 MET. TONS	.00	.00	.00	1697.07	678.83	.00	2375.90	.00	491.88	49.35	1172.80	4089.93
FU/HEAD IN KILOGRAMS	.00	.00	.00	1290.54	516.22	.00	1806.77	.00	93.51	11.26	1486.43	3397.97
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	249.73	124.87	.00	374.60	.00	.00	.00	358.40	733.00
WT IN 1000 MET. TONS	.00	.00	.00	416.22	208.12	.00	624.33	.00	.00	.00	358.40	982.73
FU/HEAD IN KILOGRAMS	.00	.00	.00	964.21	482.12	.00	1446.33	.00	.00	.00	1383.78	2830.12
CATTLE ON FEED												
FEED UNITS IN 1000'S	126.96	.00	126.96	.00	.00	.00	.00	.00	.00	.00	1012.04	1139.00
WT IN 1000 MET. TONS	309.66	.00	309.66	.00	.00	.00	.00	.00	.00	.00	1012.04	1321.70
FU/HEAD IN KILOGRAMS	107.50	.00	107.50	.00	.00	.00	.00	.00	.00	.00	856.93	964.44
OTHER BEEF												
FEED UNITS IN 1000'S	.00	.00	.00	976.30	134.44	.00	1110.74	.00	.00	.00	5389.26	6500.00
WT IN 1000 MET. TONS	.00	.00	.00	1627.17	224.06	.00	1851.23	.00	.00	.00	5389.26	7240.49
FU/HEAD IN KILOGRAMS	.00	.00	.00	266.60	36.71	.00	303.31	.00	.00	.00	1471.67	1774.99
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	5.02	.00	.00	5.02	.00	.00	.00	.65	5.67
WT IN 1000 MET. TONS	.00	.00	.00	8.37	.00	.00	8.37	.00	.00	.00	.65	9.02
FU/HEAD IN KILOGRAMS	.00	.00	.00	43.65	.00	.00	43.65	.00	.00	.00	5.65	49.30
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	18.51	.00	.00	18.51	.00	.00	.00	481.82	500.33
WT IN 1000 MET. TONS	.00	.00	.00	30.85	.00	.00	30.85	.00	.00	.00	481.82	512.67
FU/HEAD IN KILOGRAMS	.00	.00	.00	19.36	.00	.00	19.36	.00	.00	.00	504.00	523.36
HOPSES AND MULES												
FEED UNITS IN 1000'S	140.40	.00	140.40	.00	.00	.00	.00	.00	.00	.00	407.60	548.00
WT IN 1000 MET. TONS	351.00	.00	351.00	.00	.00	.00	.00	.00	.00	.00	407.60	758.60
FU/HEAD IN KILOGRAMS	1823.38	.00	1823.38	.00	.00	.00	.00	.00	.00	.00	5293.51	7116.88
TOTAL FEED UNITS ...	267.36	.00	267.36	2267.80	666.61	.00	2934.41	.00	73.78	8.88	8822.57	12107.00
TOTAL WEIGHT	660.66	.00	660.66	3779.67	1111.01	.00	4890.68	.00	491.88	49.35	8822.57	14915.14

1973 ROUGHAGE REQUIREMENTS FOR COLORADO

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF	SILAGE			PASTURE:	TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA		TOT ALF:	CORN	SORGHUM:		
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	93.43	.00	.00	93.43	78.28	.00	74.29	246.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	155.72	.00	.00	155.72	521.87	.00	74.29	751.87
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1245.73	.00	.00	1245.73	1043.73	.00	990.53	3280.00
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	26.92	.00	.00	26.92	9.20	.00	42.88	79.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	44.87	.00	.00	44.87	61.33	.00	42.88	149.08
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	928.28	.00	.00	928.28	317.24	.00	1478.62	2724.14
CATTLE ON FEED												
FEED UNITS IN 1000'S	107.09	.00	.00	107.09	.00	.00	.00	.00	62.48	6.81	39.62	216.00
WT IN 1000 MET. TONS	261.20	.00	.00	261.20	.00	.00	.00	.00	347.14	27.22	39.62	675.17
FU/HEAD IN KILOGRAMS	101.99	.00	.00	101.99	.00	.00	.00	.00	59.51	6.48	37.73	205.71
OTHER BEEF												
FEED UNITS IN 1000'S	116.73	.00	.00	116.73	670.41	.00	.00	670.41	12.49	.00	5920.37	6720.00
WT IN 1000 MET. TONS	284.70	.00	.00	284.70	1117.35	.00	.00	1117.35	69.39	.00	5920.37	7391.82
FU/HEAD IN KILOGRAMS	31.95	.00	.00	31.96	183.57	.00	.00	183.57	3.42	.00	1621.13	1840.09
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.61	4.61
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.61	4.61
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.87	8.87
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	407.39	407.39
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	407.39	407.39
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	595.60	595.60
HORSES AND MULES												
FEED UNITS IN 1000'S	36.38	.00	.00	36.38	.00	.00	.00	.00	.00	.00	105.62	142.00
WT IN 1000 MET. TONS	90.95	.00	.00	90.95	.00	.00	.00	.00	.00	.00	105.62	190.57
FU/HEAD IN KILOGRAMS	535.00	.00	.00	535.00	.00	.00	.00	.00	.00	.00	1553.24	2088.24
TOTAL FEED UNITS	260.20	.00	.00	260.20	790.76	.00	.00	790.76	162.46	6.81	6594.78	7815.00
TOTAL WEIGHT	636.85	.00	.00	636.85	1317.93	.00	.00	1317.93	999.73	27.22	6594.78	9576.51

1973 ROUGHAGE REQUIREMENTS FOR CONNECTICUT

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF	SILAGE		PASTURE	TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY	IN STATE	EXTRA	OUT STATE	CORN	SORGHUM		
MILK COWS											
FEED UNITS IN 1000'S	15.46	.00	.00	15.46	19.60	.00	.00	14.07	.00	91.87	141.00
WT IN 1000 MET. TONS	38.65	.00	.00	38.65	32.66	.00	.00	93.80	.00	91.87	256.98
FU/HEAD IN KILOGRAMS	266.55	.00	.00	266.55	337.86	.00	.00	242.59	.00	1584.03	2431.03
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	38.00	38.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	38.00	38.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1727.27	1727.27
CATTLE ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
OTHER BEEF											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	54.00	54.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	54.00	54.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1636.36	1636.36
SHEEP ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.02
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.02
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.98	1.98
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.98	1.98
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	396.00	396.00
HORSES AND MULES											
FEED UNITS IN 1000'S	12.30	.00	.00	12.30	.00	.00	.00	.00	.00	35.70	48.00
WT IN 1000 MET. TONS	30.75	.00	.00	30.75	.00	.00	.00	.00	.00	35.70	66.45
FU/HEAD IN KILOGRAMS	3075.00	.00	.00	3075.00	.00	.00	.00	.00	.00	8925.00	12000.00
TOTAL FEED UNITS	27.76	.00	.00	27.76	19.60	.00	.00	14.07	.00	221.57	283.00
TOTAL WEIGHT	69.40	.00	.00	69.40	32.66	.00	.00	93.80	.00	221.57	417.43

1973 ROUGHAGE REQUIREMENTS FOR DELAWARE

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF	SILAGE		SORGHUM	PASTURE	TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY	IN STATE	EXTRA	OUT STATE	CORN	SORGHUM			
MILK COWS												
FEED UNITS IN 1000'S	5.88	.00	.00	5.88	8.17	.00	.00	8.17	3.89	.00	19.06	37.00
WT IN 1000 MET. TONS	14.71	.00	.00	14.71	13.61	.00	.00	13.61	25.95	.00	19.06	73.33
FU/HEAD IN KILOGRAMS	490.33	.00	.00	490.33	680.50	.00	.00	680.50	324.38	.00	1588.13	3083.33
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	7.00	7.00
WT IN 1000 MET. TONS	.01	.00	.00	.01	.00	.00	.00	.00	.00	.00	7.00	7.01
FU/HEAD IN KILOGRAMS	2.00	.00	.00	2.00	.00	.00	.00	.00	.00	.00	3498.00	3500.00
CATTLE ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
OTHER BEEF												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	36.00	36.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	36.00	36.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2117.65	2117.65
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99	.99
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99	.99
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	495.00	495.00
HORSES AND MULES ...												
FEED UNITS IN 1000'S	2.82	.00	.00	2.82	.00	.00	.00	.00	.00	.00	8.18	11.00
WT IN 1000 MET. TONS	7.05	.00	.00	7.05	.00	.00	.00	.00	.00	.00	8.18	15.23
FU/HEAD IN KILOGRAMS	940.00	.00	.00	940.00	.00	.00	.00	.00	.00	.00	2726.67	3666.67
TOTAL FEED UNITS ...	8.71	.00	.00	8.71	8.17	.00	.00	8.17	3.89	.00	71.23	92.00
TOTAL WEIGHT	21.77	.00	.00	21.77	13.61	.00	.00	13.61	25.95	.00	71.23	132.56

1973 ROUGHAGE REQUIREMENTS FOR FLORIDA

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF	SILAGE		PASTURE	TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE		CORN	SORGHUM		
MILK COWS											
FEED UNITS IN 1000'S	28.48	.00	.00	28.48	.00	.00	.00	3.92	.00	255.60	288.00
WT IN 1000 MET. TONS	71.20	.00	.00	71.20	.00	.00	.00	26.13	.00	255.60	352.93
FU/HEAD IN KILOGRAMS	142.41	.00	.00	142.41	.00	.00	.00	19.60	.00	1278.00	1440.00
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	47.00	47.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	47.00	47.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1424.24	1424.24
CATTLE ON FEED											
FEED UNITS IN 1000'S	16.86	.00	.00	16.86	.00	.00	.00	.00	.00	17.14	34.00
WT IN 1000 MET. TONS	41.12	.00	.00	41.12	.00	.00	.00	.00	.00	17.14	56.26
FU/HEAD IN KILOGRAMS	290.69	.00	.00	290.69	.00	.00	.00	.00	.00	295.52	586.21
OTHER BEEF											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	3969.00	3969.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	3969.00	3969.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1980.54	1980.54
SHEEP ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.03
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.03
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.97	2.97
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.97	2.97
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	742.50	742.50
HORSES AND MULES											
FEED UNITS IN 1000'S	39.71	.00	.00	39.71	.00	.00	.00	.00	.00	115.29	155.00
WT IN 1000 MET. TONS	99.27	.00	.00	99.27	.00	.00	.00	.00	.00	115.29	214.57
FU/HEAD IN KILOGRAMS	1470.74	.00	.00	1470.74	.00	.00	.00	.00	.00	4270.00	5740.74
TOTAL FEED UNITS	85.05	.00	.00	85.05	.00	.00	.00	3.92	.00	4407.03	4496.00
TOTAL WEIGHT	211.60	.00	.00	211.60	.00	.00	.00	26.13	.00	4407.03	4644.76

1973 ROUGHAGE REQUIREMENTS FOR GEORGIA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT	HAY:IN STATE	EXTRA	OUT STATE	TOT	ALF: CORN	SORGHUM:			
MILK COWS													
FEED UNITS IN 1000'S	109.04	.00	.00	109.04	4.90	.00	.00	4.90	24.49	6.11	155.46	300.00	
WT IN 1000 MET. TONS	272.61	.00	.00	272.61	8.16	.00	.00	8.16	163.29	33.93	155.46	633.45	
FU/HEAD IN KILOGRAMS	752.03	.00	.00	752.03	33.77	.00	.00	33.77	168.92	42.12	1072.13	2068.97	
OTHER DAIRY													
FEED UNITS IN 1000'S	30.66	.00	.00	30.66	.00	.00	.00	.00	.00	.00	59.34	90.00	
WT IN 1000 MET. TONS	76.65	.00	.00	76.65	.00	.00	.00	.00	.00	.00	59.34	135.99	
FU/HEAD IN KILOGRAMS	696.82	.00	.00	696.82	.00	.00	.00	.00	.00	.00	1348.64	2045.45	
CATTLE ON FEED													
FEED UNITS IN 1000'S	10.91	.00	.00	10.91	.00	.00	.00	.00	.00	.00	11.09	22.00	
WT IN 1000 MET. TONS	26.61	.00	.00	26.61	.00	.00	.00	.00	.00	.00	11.09	37.70	
FU/HEAD IN KILOGRAMS	167.85	.00	.00	167.85	.00	.00	.00	.00	.00	.00	170.62	338.46	
OTHER BEEF													
FEED UNITS IN 1000'S	59.41	.00	.00	59.41	.00	.00	.00	.00	.00	.00	3475.60	3535.00	
WT IN 1000 MET. TONS	144.89	.00	.00	144.89	.00	.00	.00	.00	.00	.00	3475.60	3620.49	
FU/HEAD IN KILOGRAMS	31.72	.00	.00	31.72	.00	.00	.00	.00	.00	.00	1855.63	1887.35	
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.02	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.02	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.98	1.98	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.98	1.98	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	660.00	660.00	
HORSES AND MULES													
FEED UNITS IN 1000'S	36.64	.00	.00	36.64	.00	.00	.00	.00	.00	.00	106.36	143.00	
WT IN 1000 MET. TONS	91.60	.00	.00	91.60	.00	.00	.00	.00	.00	.00	106.36	197.96	
FU/HEAD IN KILOGRAMS	508.89	.00	.00	508.89	.00	.00	.00	.00	.00	.00	1477.22	1986.11	
TOTAL FEED UNITS	246.66	.00	.00	246.66	4.90	.00	.00	4.90	24.49	6.11	3809.84	4092.00	
TOTAL WEIGHT	612.36	.00	.00	612.36	8.16	.00	.00	8.16	163.29	33.93	3809.84	4627.58	

1973 ROUGHAGE REQUIREMENTS FOR IDAHO

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			TOTAL	
	IN STATE	EXTRA	OUT STATE	IN STATE	EXTRA	OUT STATE	TOT ALF	CORN	SORGHUM	PASTURE	
MILK COWS											
FEED UNITS IN 1000'S											
WT IN 1000 MET. TONS	.00	.00	.00	.00	78.09	.00	273.31	43.54	.00	197.15	514.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	130.15	.00	455.52	290.30	.00	197.15	942.96
	.00	.00	.00	.00	488.06	.00	1708.19	272.16	.00	1232.16	3212.50
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	.00	.00	.00	29.81	.00	89.43	.00	.00	85.57	175.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	49.68	.00	149.05	.00	.00	85.57	234.62
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	465.78	.00	1397.34	.00	.00	1337.03	2734.38
CATTLE ON FEED											
FEED UNITS IN 1000'S	39.66	19.83	.00	.00	.00	.00	.00	.00	.00	20.51	80.00
WT IN 1000 MET. TONS	96.73	48.37	.00	.00	.00	.00	.00	.00	.00	20.51	165.61
FU/HEAD IN KILOGRAMS	193.46	96.73	.00	.00	.00	.00	.00	.00	.00	100.05	390.24
OTHER BEEF											
FEED UNITS IN 1000'S	.00	.00	.00	.00	391.46	.00	913.40	.00	.00	2561.60	3475.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	652.43	.00	1522.33	.00	.00	2561.60	4053.93
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	235.25	.00	548.92	.00	.00	1539.42	2088.34
SHEEP ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	3.48	.00	.00	.44	3.92
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	5.80	.00	.00	.44	6.24
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	45.79	.00	.00	5.79	51.58
STOCK SHEEP											
FEED UNITS IN 1000'S	.00	.00	.00	.00	9.60	.00	22.40	.00	.00	323.68	346.08
WT IN 1000 MET. TONS	.00	.00	.00	.00	16.00	.00	37.33	.00	.00	323.68	361.01
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	15.21	.00	35.50	.00	.00	512.96	548.46
HORSES AND MULES											
FEED UNITS IN 1000'S	19.73	15.78	.00	.00	.00	.00	.00	.00	.00	41.49	77.00
WT IN 1000 MET. TONS	49.32	39.45	.00	.00	.00	.00	.00	.00	.00	41.49	130.27
FU/HEAD IN KILOGRAMS	386.86	309.41	.00	.00	.00	.00	.00	.00	.00	813.53	1509.60
TOTAL FEED UNITS ...	59.39	35.61	.00	.00	793.06	.00	1302.02	43.54	.00	3230.44	4671.00
TOTAL WEIGHT	146.06	87.82	.00	.00	848.27	.00	2170.03	290.30	.00	3230.44	5924.64

1973 ROUGHAGE REQUIREMENTS FOR ILLINOIS

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	CUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:			
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	107.58	3.92	360.47		761.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	717.23	21.77	360.47		1581.18
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	384.23	13.99	1287.38		2717.86
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	140.43		213.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	140.43		261.38
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1560.33		2366.67
CATTLE ON FEED												
FEED UNITS IN 1000'S	52.55		.00	52.55	.00	.00	.00	.00	.00	53.45		106.00
WT IN 1000 MET. TONS	128.17		.00	128.17	.00	.00	.00	.00	.00	53.45		181.62
FU/HEAD IN KILOGRAMS	89.83		.00	89.83	.00	.00	.00	.00	.00	91.37		181.20
OTHER BEEF												
FEED UNITS IN 1000'S	90.43	.00	.00	90.43	.00	.00	.00	.00	.00	4367.12		5139.00
WT IN 1000 MET. TONS	220.57	.00	.00	220.57	.00	.00	.00	.00	.00	4367.12		5723.43
FU/HEAD IN KILOGRAMS	31.51	.00	.00	31.51	.00	.00	.00	.00	.00	1521.64		1790.59
SHEEP ON FEED												
FEED UNITS IN 1000'S	1.09	.00	.00	1.09	.00	.00	.00	.00	.00	.14		1.23
WT IN 1000 MET. TONS	2.60	.00	.00	2.60	.00	.00	.00	.00	.00	.14		2.74
FU/HEAD IN KILOGRAMS	24.22	.00	.00	24.22	.00	.00	.00	.00	.00	3.11		27.33
STOCK SHEEP												
FEED UNITS IN 1000'S	4.02	.00	.00	4.02	.00	.00	.00	.00	.00	104.75		108.77
WT IN 1000 MET. TONS	9.57	.00	.00	9.57	.00	.00	.00	.00	.00	104.75		114.32
FU/HEAD IN KILOGRAMS	17.48	.00	.00	17.48	.00	.00	.00	.00	.00	455.43		472.91
HORSES AND MULES												
FEED UNITS IN 1000'S	56.62	33.34	.00	89.96	.00	.00	.00	.00	.00	131.04		221.00
WT IN 1000 MET. TONS	141.55	83.36	.00	224.91	.00	.00	.00	.00	.00	131.04		355.95
FU/HEAD IN KILOGRAMS	797.46	469.64	.00	1267.11	.00	.00	.00	.00	.00	1845.57		3112.68
TOTAL FEED UNITS	204.71	33.34	.00	238.06	1043.05	.00	.00	1043.05	3.92	5157.39		6550.00
TOTAL WEIGHT	502.46	83.36	.00	585.82	1738.41	.00	.00	1738.41	21.77	5157.39		8220.62

1973 ROUGHAGE REQUIREMENTS FOR INDIANA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE		TOTAL
	IN STATE	EXTRA	CUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:	:	:	
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	266.24	.00	266.24	50.51	5.88	378.37	701.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	443.73	.00	443.73	336.75	32.66	378.37	1191.51	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1147.59	.00	1147.59	217.73	25.34	1630.50	3021.55	
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	65.41	.00	65.41	.00	.00	125.59	192.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	109.02	.00	109.02	.00	.00	125.59	235.61	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	807.53	.00	807.53	.00	.00	1562.84	2370.37	
CATTLE ON FEED												
FEED UNITS IN 1000'S	24.79	.00	.00	24.79	.00	.00	.00	.00	.00	25.21	50.00	
WT IN 1000 MET. TONS	60.46	.00	.00	60.46	.00	.00	.00	.00	.00	25.21	85.67	
FU/HEAD IN KILOGRAMS	89.82	.00	.00	89.82	.00	.00	.00	.00	.00	91.34	181.16	
OTHER BEEF												
FEED UNITS IN 1000'S	115.86	.00	.00	115.86	163.95	.00	163.95	.00	.00	3123.19	3403.09	
WT IN 1000 MET. TONS	282.59	.00	.00	282.59	273.25	.00	273.25	.00	.00	3123.19	3679.03	
FU/HEAD IN KILOGRAMS	67.68	.00	.00	67.68	95.77	.00	95.77	.00	.00	1824.29	1987.73	
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.13	1.13	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.13	1.13	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	45.20	45.20	
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	99.87	99.87	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	99.87	99.87	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	475.57	475.57	
HORSES AND MULES ...												
FEED UNITS IN 1000'S	62.00	.00	.00	62.00	.00	.00	.00	.00	.00	180.00	242.00	
WT IN 1000 MET. TONS	155.00	.00	.00	155.00	.00	.00	.00	.00	.00	180.00	335.00	
FU/HEAD IN KILOGRAMS	1215.69	.00	.00	1215.69	.00	.00	.00	.00	.00	3529.41	4745.10	
TOTAL FEED UNITS ...	202.65	.00	.00	202.65	495.60	.00	495.60	50.51	5.88	3934.36	4689.00	
TOTAL WEIGHT	498.05	.00	.00	498.05	826.00	.00	826.00	336.75	32.66	3934.36	5627.82	

1973 ROUGHAGE REQUIREMENTS FOR IOWA

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:			SILAGE		SORGHUM:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:	CORN	SORGHUM:	CORN	SORGHUM:	
MILK COWS														
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
OTHER DAIRY														
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
CATTLE ON FEED														
FEED UNITS IN 1000'S	161.13	.00	.00	161.13	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	393.00	.00	.00	393.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	83.83	.00	.00	83.83	.00	.00	.00	.00	.00	.00	.00	.00	.00	
OTHER BEEF														
FEED UNITS IN 1000'S	191.61	.00	.00	191.61	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	467.35	.00	.00	467.35	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	26.69	.00	.00	26.69	.00	.00	.00	.00	.00	.00	.00	.00	.00	
SHEEP ON FEED														
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP														
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
HORSES AND MULES														
FEED UNITS IN 1000'S	58.93	.00	.00	58.93	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	147.32	.00	.00	147.32	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	685.23	.00	.00	685.23	.00	.00	.00	.00	.00	.00	.00	.00	.00	
TOTAL FEED UNITS ...	411.67	.00	.00	411.67	.00	.00	.00	.00	.00	.00	.00	.00	.00	
TOTAL WEIGHT	1007.67	.00	.00	1007.67	.00	.00	.00	.00	.00	.00	.00	.00	.00	

1973 ROUGHAGE REQUIREMENTS FOR KANSAS

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:	SILAGE			SORGHUM:	PASTURE:	TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE		CCRN	CCRN	CCRN			
MILK COWS													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	142.80	118.12	1.52	113.56	376.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	238.00	787.44	8.47	113.56	1147.47	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
OTHER DAIRY													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	40.88	.00	13.98	65.14	120.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	68.13	.00	77.67	65.14	210.94	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
CATTLE ON FEED													
FEED UNITS IN 1000'S	286.57	.00	.00	286.57	.00	.00	.00	.00	.00	167.16	124.27	578.00	
WT IN 1000 MET. TONS	698.95	.00	.00	698.95	.00	.00	.00	.00	.00	668.66	124.27	1491.87	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
OTHER BEEF													
FEED UNITS IN 1000'S	201.43	.00	.00	201.43	.00	.00	.00	1273.32	.00	.00	9717.25	11192.00	
WT IN 1000 MET. TONS	491.30	.00	.00	491.30	.00	.00	.00	2122.20	.00	.00	9717.25	12330.75	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	1.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.00	1.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	88.00	88.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	88.00	88.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
HORSES AND MULES ...													
FEED UNITS IN 1000'S	62.77	.00	.00	62.77	.00	.00	.00	.00	.00	.00	182.23	245.00	
WT IN 1000 MET. TONS	156.92	.00	.00	156.92	.00	.00	.00	.00	.00	.00	182.23	339.16	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
TOTAL FEED UNITS ...	550.77	.00	.00	550.77	.00	.00	.00	1457.00	118.12	182.67	10291.44	12600.00	
TOTAL WEIGHT	1347.18	.00	.00	1347.18	.00	.00	.00	2428.33	787.44	754.79	10291.44	15609.18	

1973 ROUGHAGE REQUIREMENTS FOR KENTUCKY

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:			
MILK COWS												
FEED UNITS IN 1000'S	11.69		.00	11.69	230.24	.00	230.24	54.84	3.53	336.70		637.00
WT IN 1000 MET. TONS	29.21		.00	29.21	383.74	.00	383.74	365.60	19.60	336.70		1134.86
FU/-HEAD IN KILOGRAMS	36.07		.00	36.07	710.63	.00	710.63	169.26	10.89	1039.20		1966.05
OTHER DAIRY												
FEED UNITS IN 1000'S	64.39		.00	64.39	.00	.00	.00	.00	.00	124.61		189.00
WT IN 1000 MET. TONS	160.98		.00	160.98	.00	.00	.00	.00	.00	124.61		285.59
FU/-HEAD IN KILOGRAMS	707.58		.00	707.58	.00	.00	.00	.00	.00	1369.34		2076.92
CATTLE ON FEED												
FEED UNITS IN 1000'S	5.45		.00	5.45	.00	.00	.00	.00	.00	5.55		11.00
WT IN 1000 MET. TONS	13.29		.00	13.29	.00	.00	.00	.00	.00	5.55		18.84
FU/-HEAD IN KILOGRAMS	143.42		.00	143.42	.00	.00	.00	.00	.00	146.05		289.47
OTHER BEEF												
FEED UNITS IN 1000'S	475.80		.00	475.80	.00	.00	.00	.00	.00	4507.20		4983.00
WT IN 1000 MET. TONS	1160.48		.00	1160.48	.00	.00	.00	.00	.00	4507.20		5667.68
FU/-HEAD IN KILOGRAMS	181.74		.00	181.74	.00	.00	.00	.00	.00	1721.62		1903.36
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00		.00	.00	.00	.00	.00	.00	.00	.24		.24
WT IN 1000 MET. TONS	.00		.00	.00	.00	.00	.00	.00	.00	.24		.24
FU/-HEAD IN KILOGRAMS	.00		.00	.00	.00	.00	.00	.00	.00	.00		.00
STOCK SHEEP												
FEED UNITS IN 1000'S	.00		.00	.00	.00	.00	.00	.00	.00	20.76		20.76
WT IN 1000 MET. TONS	.00		.00	.00	.00	.00	.00	.00	.00	20.76		20.76
FU/-HEAD IN KILOGRAMS	.00		.00	.00	.00	.00	.00	.00	.00	334.84		334.84
HORSES AND MULES ...												
FEED UNITS IN 1000'S	55.34		.00	55.34	.00	.00	.00	.00	.00	160.66		216.00
WT IN 1000 MET. TONS	138.35		.00	138.35	.00	.00	.00	.00	.00	160.66		299.01
FU/-HEAD IN KILOGRAMS	368.93		.00	368.93	.00	.00	.00	.00	.00	1071.07		1440.00
TOTAL FEED UNITS ...	612.66		.00	612.66	230.24	.00	230.24	54.84	3.53	5155.73		6057.00
TOTAL WEIGHT	1502.31		.00	1502.31	383.74	.00	383.74	365.60	19.60	5155.73		7426.98

1973 ROUGHAGE REQUIREMENTS FOR LOUISIANA

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:			SILAGE			PASTURE:			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:	CORN	SORGHUM:	PASTURE:	SORGHUM:			
MILK COWS																
FEED UNITS IN 1000'S	82.41	.00	.00	82.41	.00	.00	11.02	2.59	1.44	148.55	246.00					
WT IN 1000 MET. TONS	206.02	.00	.00	206.02	.00	.00	18.37	17.24	7.98	148.55	398.16					
FU/HEAD IN KILOGRAMS	535.12	.00	.00	535.12	.00	.00	71.57	16.79	9.33	964.59	1597.40					
OTHER DAIRY																
FEED UNITS IN 1000'S	22.83	.00	.00	22.83	.00	.00	.00	.00	.00	44.17	67.00					
WT IN 1000 MET. TONS	57.07	.00	.00	57.07	.00	.00	.00	.00	.00	44.17	101.25					
FU/HEAD IN KILOGRAMS	518.86	.00	.00	518.86	.00	.00	.00	.00	.00	1003.86	1522.73					
CATTLE ON FEED																
FEED UNITS IN 1000'S	2.97	.00	.00	2.97	.00	.00	.00	.00	.00	3.03	6.00					
WT IN 1000 MET. TONS	7.24	.00	.00	7.24	.00	.00	.00	.00	.00	3.03	10.27					
FU/HEAD IN KILOGRAMS	247.50	.00	.00	247.50	.00	.00	.00	.00	.00	252.50	500.00					
OTHER BEEF																
FEED UNITS IN 1000'S	20.91	.00	.00	20.91	.00	.00	.00	.00	.00	2422.09	2443.00					
WT IN 1000 MET. TONS	51.00	.00	.00	51.00	.00	.00	.00	.00	.00	2422.09	2473.09					
FU/HEAD IN KILOGRAMS	13.36	.00	.00	13.36	.00	.00	.00	.00	.00	1547.66	1561.02					
SHEEP ON FEED																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.08	.08					
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.08	.08					
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00					
STOCK SHEEP																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	6.92	6.92					
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	6.92	6.92					
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	346.00	346.00					
HORSES AND MULES																
FEED UNITS IN 1000'S	36.12	.00	.00	36.12	.00	.00	.00	.00	.00	104.68	141.00					
WT IN 1000 MET. TONS	90.30	.00	.00	90.30	.00	.00	.00	.00	.00	104.68	195.18					
FU/HEAD IN KILOGRAMS	410.45	.00	.00	410.45	.00	.00	.00	.00	.00	1191.82	1602.27					
TOTAL FEED UNITS ...	165.24	.00	.00	165.24	11.02	.00	11.02	2.59	1.44	2729.72	2910.00					
TOTAL WEIGHT	411.64	.00	.00	411.64	18.37	.00	18.37	17.24	7.98	2729.72	3184.95					

1973 ROUGHAGE REQUIREMENTS FOR MAINE

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:			SILAGE		PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:	CORN	SORGHUM:		
MILK COWS														
FEED UNITS IN 1000'S	43.64	.00	.00	43.64	14.69	.00	.00	14.69	14.29	.00	79.98	.00	152.00	
WT IN 1000 MET. TONS	107.59	.00	.00	107.59	24.49	.00	.00	24.49	95.26	.00	79.98	.00	307.32	
FU/HEAD IN KILOGRAMS	705.51	.00	.00	705.51	240.89	.00	.00	240.89	234.25	.00	1311.16	.00	2491.80	
OTHER DAIRY														
FEED UNITS IN 1000'S	17.03	.00	.00	17.03	.00	.00	.00	.00	.00	.00	32.97	.00	50.00	
WT IN 1000 MET. TONS	42.57	.00	.00	42.57	.00	.00	.00	.00	.00	.00	32.97	.00	75.55	
FU/HEAD IN KILOGRAMS	681.20	.00	.00	681.20	.00	.00	.00	.00	.00	.00	1318.80	.00	2000.00	
CATTLE ON FEED														
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
OTHER BEEF														
FEED UNITS IN 1000'S	14.87	.00	.00	14.87	.00	.00	.00	.00	.00	.00	84.13	.00	99.00	
WT IN 1000 MET. TONS	36.27	.00	.00	36.27	.00	.00	.00	.00	.00	.00	84.13	.00	120.40	
FU/HEAD IN KILOGRAMS	297.40	.00	.00	297.40	.00	.00	.00	.00	.00	.00	1682.60	.00	1980.00	
SHEEP ON FEED														
FEED UNITS IN 1000'S	.06	.00	.00	.06	.00	.00	.00	.00	.00	.00	.01	.00	.07	
WT IN 1000 MET. TONS	.14	.00	.00	.14	.00	.00	.00	.00	.00	.00	.01	.00	.15	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP														
FEED UNITS IN 1000'S	.22	.00	.00	.22	.00	.00	.00	.00	.00	.00	5.71	.00	5.93	
WT IN 1000 MET. TONS	.52	.00	.00	.52	.00	.00	.00	.00	.00	.00	5.71	.00	6.23	
FU/HEAD IN KILOGRAMS	15.71	.00	.00	15.71	.00	.00	.00	.00	.00	.00	407.86	.00	423.57	
HORSES AND MULES														
FEED UNITS IN 1000'S	11.27	2.61	.00	13.88	.00	.00	.00	.00	.00	.00	30.12	.00	44.00	
WT IN 1000 MET. TONS	28.17	6.54	.00	34.71	.00	.00	.00	.00	.00	.00	30.12	.00	64.83	
FU/HEAD IN KILOGRAMS	1408.75	326.75	.00	1735.50	.00	.00	.00	.00	.00	.00	3764.50	.00	5500.00	
TOTAL FEED UNITS	86.49	2.61	.00	89.10	14.69	.00	.00	14.69	14.29	.00	232.92	.00	351.00	
TOTAL WEIGHT	215.27	6.54	.00	221.81	24.49	.00	.00	24.49	95.26	.00	232.92	.00	574.48	

1973 ROUGHAGE REQUIREMENTS FOR MARYLAND

LIVESTOCK TYPE	HAY			ALFALFA			STAGE			PASTURE			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY	IN STATE	EXTRA	OUT STATE	TOT ALF	CORN	SORGHUM			
MILK COWS													
FEED UNITS IN 1000'S	75.82	.00	.00	75.82	77.15	.00	.00	77.15	38.10	.00	219.92	411.00	
WT IN 1000 MET. TONS	189.56	.00	.00	189.56	128.59	.00	.00	128.59	254.01	.00	219.92	792.08	
FU/HEAD IN KILOGRAMS	519.34	.00	.00	519.34	528.45	.00	.00	528.45	260.97	.00	1506.31	2615.07	
OTHER DAIRY													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	97.00	97.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	97.00	97.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2155.56	2155.56	
CATTLE ON FEED													
FEED UNITS IN 1000'S	5.95	.00	.00	5.95	.00	.00	.00	.00	.00	.00	6.05	12.00	
WT IN 1000 MET. TONS	14.51	.00	.00	14.51	.00	.00	.00	.00	.00	.00	6.05	20.56	
FU/HEAD IN KILOGRAMS	283.33	.00	.00	283.33	.00	.00	.00	.00	.00	.00	288.10	571.43	
OTHER BEEF													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	424.00	424.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	424.00	424.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1953.92	1953.92	
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	.09	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.09	.09	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	7.91	7.91	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	7.91	7.91	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	416.32	416.32	
HORSES AND MULES													
FEED UNITS IN 1000'S	21.52	.00	.00	21.52	.00	.00	.00	.00	.00	.00	62.48	84.00	
WT IN 1000 MET. TONS	53.80	.00	.00	53.80	.00	.00	.00	.00	.00	.00	62.48	116.28	
FU/HEAD IN KILOGRAMS	1345.00	.00	.00	1345.00	.00	.00	.00	.00	.00	.00	3905.00	5250.00	
TOTAL FEED UNITS ...	103.29	.00	.00	103.29	77.15	.00	.00	77.15	38.10	.00	817.45	1036.00	
TOTAL WEIGHT	257.87	.00	.00	257.87	128.59	.00	.00	128.59	254.01	.00	817.45	1457.92	

1973 ROUGHAGE REQUIREMENTS FOR MASSACHUSETTS

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF			SILAGE		PASTURE:	TOTAL
	IN STATE	EXTRA	OUT STATE	IN STATE	EXTRA	OUT STATE	IN STATE	EXTRA	OUT STATE	CORN	SORGHUM:		
MILK COWS													
FEED UNITS IN 1000'S	28.15	.00	.00	28.15	.00	.00	25.72	.00	.00	9.58	.00	80.56	144.00
WT IN 1000 MET. TONS	70.37	.00	.00	70.37	.00	.00	42.86	.00	.00	63.87	.00	80.56	257.66
FU/HEAD IN KILOGRAMS	493.82	.00	.00	493.82	.00	.00	451.16	.00	.00	168.08	.00	1413.25	2526.32
OTHER DAIRY													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	31.00	31.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	31.00	31.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1937.50	1937.50
CATTLE ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
OTHER BEEF													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	58.00	58.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	58.00	58.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1526.32	1526.32
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.03
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.03
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.97	2.97
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.97	2.97
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	371.25	371.25
HORSES AND MULES													
FEED UNITS IN 1000'S	10.50	.00	.00	10.50	.00	.00	.00	.00	.00	.00	.00	30.50	41.00
WT IN 1000 MET. TONS	26.25	.00	.00	26.25	.00	.00	.00	.00	.00	.00	.00	30.50	56.75
FU/HEAD IN KILOGRAMS	2100.00	.00	.00	2100.00	.00	.00	.00	.00	.00	.00	.00	6100.00	8200.00
TOTAL FEED UNITS	38.65	.00	.00	38.65	.00	.00	25.72	.00	.00	9.58	.00	203.06	277.00
TOTAL WEIGHT	96.62	.00	.00	96.62	.00	.00	42.86	.00	.00	63.87	.00	203.06	406.41

1973 ROUGHAGE REQUIREMENTS FOR MICHIGAN

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF	SILAGE			PASTURE	TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY	IN STATE	EXTRA	OUT STATE	CORN	SORGHUM			
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	533.62	151.64	.00	112.51	.00	607.23	1405.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	889.37	252.74	.00	750.07	.00	607.23	2499.40	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1264.50	359.35	.00	266.61	.00	1434.92	3329.38	
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	144.46	.00	.00	.00	.00	279.54	424.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	240.77	.00	.00	.00	.00	279.54	520.31	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	816.16	.00	.00	.00	.00	1579.32	2395.48	
CATTLE ON FEED												
FEED UNITS IN 1000'S	19.83	.00	.00	19.83	.00	.00	.00	.00	.00	20.17	40.00	
WT IN 1000 MET. TONS	48.37	.00	.00	48.37	.00	.00	.00	.00	.00	20.17	68.54	
FU/HEAD IN KILOGRAMS	80.94	.00	.00	80.94	.00	.00	.00	.00	.00	82.33	163.27	
OTHER BEEF												
FEED UNITS IN 1000'S	.00	.00	.00	.00	253.69	.00	.00	.00	.00	1435.31	1689.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	422.82	.00	.00	.00	.00	1435.31	1958.13	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	259.66	.00	.00	.00	.00	1469.10	1728.76	
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.79	.00	.00	.00	.00	.11	.90	
WT IN 1000 MET. TONS	.00	.00	.00	.00	1.32	.00	.00	.00	.00	.11	1.43	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	15.49	.00	.00	.00	.00	2.16	17.65	
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	2.93	.00	.00	.00	.00	76.17	79.10	
WT IN 1000 MET. TONS	.00	.00	.00	.00	4.88	.00	.00	.00	.00	76.17	81.05	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	17.24	.00	.00	.00	.00	448.06	465.29	
HORSES AND MULES ...												
FEED UNITS IN 1000'S	77.88	12.73	.00	90.61	.00	.00	.00	.00	.00	213.39	304.00	
WT IN 1000 MET. TONS	194.70	31.81	.00	226.51	.00	.00	.00	.00	.00	213.39	439.91	
FU/HEAD IN KILOGRAMS	2163.33	353.49	.00	2516.82	.00	.00	.00	.00	.00	5927.62	8444.44	
TOTAL FEED UNITS ...	97.71	12.73	.00	110.44	935.49	151.64	.00	1087.13	.00	2631.92	3942.00	
TOTAL WEIGHT	243.07	31.81	.00	274.88	1559.15	252.74	.00	1811.89	.00	2631.92	5468.76	

1973 ROUGHAGE REQUIREMENTS FOR MINNESOTA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:		
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	1031.92	412.77	.00	1444.69	223.20	.00	1049.11	2717.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	1719.87	687.95	.00	2407.82	1487.98	.00	1049.11	4944.91
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1114.38	445.76	.00	1560.14	241.03	.00	1132.95	2934.13
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	237.81	118.90	.00	356.71	.00	.00	341.29	698.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	396.35	198.17	.00	594.52	.00	.00	341.29	939.81
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	727.25	363.61	.00	1090.86	.00	.00	1043.70	2134.56
CATTLE ON FEED												
FEED UNITS IN 1000'S	38.67	19.34	.00	58.01	.00	.00	.00	.00	.00	.00	19.99	78.00
WT IN 1000 MET. TONS	94.32	47.17	.00	141.49	.00	.00	.00	.00	.00	.00	19.99	161.48
FU/HEAD IN KILOGRAMS	78.28	39.15	.00	117.43	.00	.00	.00	.00	.00	.00	40.47	157.89
OTHER BEEF												
FEED UNITS IN 1000'S	.00	264.07	.00	264.07	790.65	127.32	.00	917.97	.00	.00	4081.96	5264.00
WT IN 1000 MET. TONS	.00	644.08	.00	644.08	1317.75	212.20	.00	1529.95	.00	.00	4081.96	6255.98
FU/HEAD IN KILOGRAMS	.00	94.82	.00	94.82	283.90	45.72	.00	329.61	.00	.00	1465.69	1890.13
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	1.46	.00	.00	1.46	.00	.00	.19	1.65
WT IN 1000 MET. TONS	.00	.00	.00	.00	2.43	.00	.00	2.43	.00	.00	.19	2.62
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	12.70	.00	.00	12.70	.00	.00	1.65	14.35
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	5.38	.00	.00	5.38	.00	.00	139.97	145.35
WT IN 1000 MET. TONS	.00	.00	.00	.00	8.97	.00	.00	8.97	.00	.00	139.97	148.94
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	16.30	.00	.00	16.30	.00	.00	424.15	440.45
HORSES AND MULES												
FEED UNITS IN 1000'S	49.96	39.97	.00	89.93	.00	.00	.00	.00	.00	.00	105.07	195.00
WT IN 1000 MET. TONS	124.90	99.92	.00	224.82	.00	.00	.00	.00	.00	.00	105.07	329.90
FU/HEAD IN KILOGRAMS	846.78	677.46	.00	1524.24	.00	.00	.00	.00	.00	.00	1780.85	3305.08
TOTAL FEED UNITS	86.63	323.38	.00	412.01	2067.22	658.99	.00	2726.21	223.20	.00	5737.58	9099.00
TOTAL WEIGHT	219.22	791.17	.00	1010.39	3445.37	1098.31	.00	4543.68	1487.98	.00	5737.58	12779.63

1973 ROUGHAGE REQUIREMENTS FOR MISSISSIPPI

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:			TOTAL
	IN STATE	EXTRA	TOT	IN STATE	EXTRA	TOT	CORN	SORGHUM:	TOT				
MILK COWS													
FEED UNITS IN 1000'S	75.99	.00	75.99	15.92	.00	15.92	14.70	15.94	119.46	242.00			
WT IN 1000 MET. TONS	189.97	.00	189.97	26.54	.00	26.54	97.98	88.54	119.46	522.48			
FU/HEAD IN KILOGRAMS	516.91	.00	516.91	108.33	.00	108.33	99.98	108.42	812.62	1646.26			
OTHER DAIRY													
FEED UNITS IN 1000'S	24.87	.00	24.87	.00	.00	.00	.00	.00	48.13	73.00			
WT IN 1000 MET. TONS	62.17	.00	62.17	.00	.00	.00	.00	.00	48.13	110.31			
FU/HEAD IN KILOGRAMS	578.37	.00	578.37	.00	.00	.00	.00	.00	1119.30	1697.67			
CATTLE ON FEED													
FEED UNITS IN 1000'S	2.48	.00	2.48	.00	.00	.00	.00	.00	2.52	5.00			
WT IN 1000 MET. TONS	6.05	.00	6.05	.00	.00	.00	.00	.00	2.52	8.57			
FU/HEAD IN KILOGRAMS	177.14	.00	177.14	.00	.00	.00	.00	.00	181.00	357.14			
OTHER BEEF													
FEED UNITS IN 1000'S	129.56	.00	129.56	.00	.00	.00	.00	.00	3539.44	3669.00			
WT IN 1000 MET. TONS	316.00	.00	316.00	.00	.00	.00	.00	.00	3539.44	3855.44			
FU/HEAD IN KILOGRAMS	58.23	.00	58.23	.00	.00	.00	.00	.00	1597.76	1648.99			
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.03	.03			
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.03	.03			
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00			
STOCK SHEEP													
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	2.97	2.97			
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	2.97	2.97			
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	371.25	371.25			
HORSES AND MULES													
FEED UNITS IN 1000'S	34.59	.00	34.59	.00	.00	.00	.00	.00	100.41	135.00			
WT IN 1000 MET. TONS	86.48	.00	86.48	.00	.00	.00	.00	.00	100.41	146.69			
FU/HEAD IN KILOGRAMS	241.89	.00	241.89	.00	.00	.00	.00	.00	702.17	944.06			
TOTAL FEED UNITS ...	267.48	.00	267.48	15.92	.00	15.92	14.70	15.94	3812.96	4127.00			
TOTAL WEIGHT	660.66	.00	660.66	26.54	.00	26.54	97.98	88.54	3812.96	4686.68			

1973 ROUGHAGE REQUIREMENTS FOR MISSOURI

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:			
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	52.25	7.51	465.54	847.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	348.36	41.73	465.54	1391.78	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	322.56	46.37	2873.73	5228.40	
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	143.73	218.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	143.73	267.51	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	2566.61	3892.86	
CATTLE ON FEED												
FEED UNITS IN 1000'S	25.78	.00	.00	25.78	.00	.00	.00	.00	.00	26.22	52.00	
WT IN 1000 MET. TONS	62.88	.00	.00	62.88	.00	.00	.00	.00	.00	26.22	82.10	
FU/HEAD IN KILOGRAMS	20.62	.00	.00	20.62	.00	.00	.00	.00	.00	20.98	41.60	
OTHER BEEF												
FEED UNITS IN 1000'S	947.25	.00	.00	947.25	.00	.00	.00	.00	.00	10764.72	12059.00	
WT IN 1000 MET. TONS	2310.36	.00	.00	2310.36	.00	.00	.00	.00	.00	10764.72	13653.47	
FU/HEAD IN KILOGRAMS	143.91	.00	.00	143.91	.00	.00	.00	.00	.00	1635.48	1832.12	
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.97	.97	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.97	.97	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	9.33	9.33	
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	86.03	86.03	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	86.03	86.03	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	389.28	389.28	
HORSES AND MULES												
FEED UNITS IN 1000'S	61.23	.00	.00	61.23	.00	.00	.00	.00	.00	177.77	239.00	
WT IN 1000 MET. TONS	153.07	.00	.00	153.07	.00	.00	.00	.00	.00	177.77	330.85	
FU/HEAD IN KILOGRAMS	874.71	.00	.00	874.71	.00	.00	.00	.00	.00	2539.57	3414.29	
TOTAL FEED UNITS ...	1034.26	.00	.00	1034.26	742.99	.00	.00	742.99	7.51	11664.99	13502.00	
TOTAL WEIGHT	2526.31	.00	.00	2526.31	1238.32	.00	.00	1238.32	41.73	11664.99	15819.71	

1973 ROUGHAGE REQUIREMENTS FOR MONTANA

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF	CORN	SORGHUM	PASTURE	TOTAL
	IN STATE	EXTRA	TOT	IN STATE	EXTRA	TOT					
MILK COWS											
FEED UNITS IN 1000'S											
WT IN 1000 MET. TONS	.00	.00	.00	31.14	12.46	.00	43.60	26.09	.00	12.31	42.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	51.89	20.77	.00	72.67	173.93	.00	12.31	258.91
	.00	.00	.00	973.12	389.37	.00	1362.50	815.31	.00	384.69	2562.50
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	.00	.00	7.15	3.58	.00	10.73	2.45	.00	7.82	21.00
WT IN 1000 MET. TONS	.00	.00	.00	11.92	5.97	.00	17.88	16.33	.00	7.82	42.04
FU/HEAD IN KILOGRAMS	.00	.00	.00	715.00	358.00	.00	1073.00	245.00	.00	782.00	2100.00
CATTLE CV FEED											
FEED UNITS IN 1000'S	18.84	9.42	28.26	.00	.00	.00	.00	2.39	.00	7.35	38.00
WT IN 1000 MET. TONS	45.95	22.98	68.93	.00	.00	.00	.00	13.30	.00	7.35	89.58
FU/HEAD IN KILOGRAMS	117.75	58.87	176.62	.00	.00	.00	.00	14.97	.00	45.91	237.59
OTHER BEEF											
FEED UNITS IN 1000'S	.00	387.07	387.07	871.46	111.78	.00	983.24	.00	.00	4431.68	5802.00
WT IN 1000 MET. TONS	.00	944.08	944.08	1452.43	186.30	.00	1638.74	.00	.00	4431.68	7014.50
FU/HEAD IN KILOGRAMS	.00	122.69	122.69	276.22	35.43	.00	311.65	.00	.00	1404.65	1836.99
SHEEP ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	3.35	.00	.00	3.35	.00	.00	.42	3.77
WT IN 1000 MET. TONS	.00	.00	.00	5.58	.00	.00	5.58	.00	.00	.42	6.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	27.92	.00	.00	27.92	.00	.00	3.50	31.42
STOCK SHEEP											
FEED UNITS IN 1000'S	.00	.00	.00	12.33	.00	.00	12.33	.00	.00	320.90	333.23
WT IN 1000 MET. TONS	.00	.00	.00	20.55	.00	.00	20.55	.00	.00	320.90	341.45
FU/HEAD IN KILOGRAMS	.00	.00	.00	14.77	.00	.00	14.77	.00	.00	384.31	399.08
HORSES AND MULES											
FEED UNITS IN 1000'S	44.32	35.46	79.78	.00	.00	.00	.00	.00	.00	93.22	173.00
WT IN 1000 MET. TONS	110.80	88.65	199.45	.00	.00	.00	.00	.00	.00	93.22	292.67
FU/HEAD IN KILOGRAMS	503.64	402.95	906.59	.00	.00	.00	.00	.00	.00	1059.32	1985.91
TOTAL FEED UNITS	63.16	431.95	495.11	925.43	127.82	.00	1053.25	30.93	.00	4873.70	6453.00
TOTAL WEIGHT	156.75	1055.71	1212.46	1542.38	213.04	.00	1755.42	203.57	.00	4873.70	8045.15

1973 ROUGHAGE REQUIREMENTS FOR NEBRASKA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:		
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	146.22	58.49	122.51	204.71		.00	57.78	385.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	243.70	97.48	816.73	341.18		.00	57.78	1215.70
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00		.00	.00	.00
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	30.32	15.16	10.37	45.48		.00	33.15	89.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	50.53	25.27	69.13	75.80		.00	33.15	178.08
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00		.00	.00	.00
CATTLE ON FEED												
FEED UNITS IN 1000'S	418.46	203.86	.00	622.32	.00	.00	74.22	.00		43.54	103.91	844.00
WT IN 1000 MET. TONS	1020.63	497.23	.00	1517.86	.00	.00	412.32	.00		174.18	103.91	2208.28
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00		.00	.00	.00
OTHER BEEF												
FEED UNITS IN 1000'S	.00	.00	.00	.00	1576.05	112.79	.00	1688.84		.00	8804.16	10493.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	2626.75	187.98	.00	2814.73		.00	8804.16	11618.89
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00		.00	.00	.00
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.89	.00	.00	.89		.00	.12	1.01
WT IN 1000 MET. TONS	.00	.00	.00	.00	1.48	.00	.00	1.48		.00	.12	1.60
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00		.00	.00	.00
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	3.29	.00	.00	3.29		.00	85.70	88.99
WT IN 1000 MET. TONS	.00	.00	.00	.00	5.48	.00	.00	5.48		.00	85.70	91.18
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00		.00	.00	.00
HORSES AND MULES ...												
FEED UNITS IN 1000'S	22.55	18.04	.00	40.59	.00	.00	.00	.00		.00	47.41	88.00
WT IN 1000 MET. TONS	56.37	45.10	.00	101.47	.00	.00	.00	.00		.00	47.41	148.89
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00		.00	.00	.00
TOTAL FEED UNITS ...	441.01	221.90	.00	662.91	1756.77	186.44	207.10	1943.21		43.54	9132.23	11989.00
TOTAL WEIGHT	1077.01	542.33	.00	1619.34	2927.95	310.73	1298.19	3238.68		174.18	9132.23	15462.62

1973 POUCHAGE REQUIREMENTS FOR NEVADA

LIVESTOCK TYPE	HAY		ALFALFA		TOT ALF		SILAGE		PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF	CORN	SORGHUM:		
MILK COWS											
FEED UNITS IN 1000'S	.00	7.90	.00	7.90	19.75	.00	19.75	1.39	.00	22.96	52.00
WT IN 1000 MET. TONS	.00	19.75	.00	19.75	32.92	.00	32.92	9.25	.00	22.96	84.86
FU/HEAD IN KILOGRAMS	.00	564.29	.00	564.29	1410.71	.00	1410.71	99.11	.00	1640.18	3714.29
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	2.55	.00	2.56	5.11	.00	5.11	.00	.00	7.33	15.09
WT IN 1000 MET. TONS	.00	6.40	.00	6.40	8.52	.00	8.52	.00	.00	7.33	22.25
FU/HEAD IN KILOGRAMS	.00	426.67	.00	426.67	851.67	.00	851.67	.00	.00	1221.67	2500.00
CATTLE ON FEED											
FEED UNITS IN 1000'S	19.83	9.92	.00	29.75	.00	.00	.00	.00	.00	10.25	40.00
WT IN 1000 MET. TONS	48.37	24.20	.00	72.56	.00	.00	.00	.00	.00	10.25	82.81
FU/HEAD IN KILOGRAMS	396.60	198.40	.00	595.00	.00	.00	.00	.00	.00	205.00	900.00
OTHER BEEF											
FEED UNITS IN 1000'S	2.76	.61	.00	3.39	211.10	.00	211.10	.00	.00	1209.51	1424.00
WT IN 1000 MET. TONS	6.78	1.49	.00	8.26	351.84	.00	351.84	.00	.00	1209.51	1569.61
FU/HEAD IN KILOGRAMS	4.40	.97	.00	5.37	334.55	.00	334.55	.00	.00	1916.82	2256.74
SHEEP ON FEED											
FEED UNITS IN 1000'S	.88	.00	.00	.88	.00	.00	.00	.00	.00	.12	1.00
WT IN 1000 MET. TONS	2.10	.00	.00	2.10	.00	.00	.00	.00	.00	.12	2.22
FU/HEAD IN KILOGRAMS	46.32	.00	.00	46.32	.00	.00	.00	.00	.00	6.32	52.63
STOCK SHEEP											
FEED UNITS IN 1000'S	3.26	.00	.00	3.26	.00	.00	.00	.00	.00	84.74	88.00
WT IN 1000 MET. TONS	7.76	.00	.00	7.76	.00	.00	.00	.00	.00	84.74	92.50
FU/HEAD IN KILOGRAMS	20.25	.00	.00	20.25	.00	.00	.00	.00	.00	526.34	546.58
HORSES AND MULES ...											
FEED UNITS IN 1000'S	18.19	14.55	.00	32.74	.00	.00	.00	.00	.00	38.26	71.00
WT IN 1000 MET. TONS	45.47	36.37	.00	81.85	.00	.00	.00	.00	.00	38.26	120.11
FU/HEAD IN KILOGRAMS	909.50	727.50	.00	1637.00	.00	.00	.00	.00	.00	1913.00	3550.00
TOTAL FEED UNITS ...	44.94	35.54	.00	80.48	235.96	.00	235.96	1.39	.00	1373.17	1691.00
TOTAL WEIGHT	110.47	88.21	.00	198.68	393.27	.00	393.27	9.25	.00	1373.17	1974.37

1973 ROUGHAGE REQUIREMENTS FOR NEW HAMPSHIRE

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF			SILAGE			PASTURE			TOTAL
	IN STATE	EXTRA	OUT STATE	IN STATE	EXTRA	OUT STATE	IN STATE	EXTRA	OUT STATE	CORN	SORGHUM					
MILK COWS																
FEED UNITS IN 1000'S	14.78	.00	.00	14.78	16.74	.00	.00	.00	.00	7.35	.00	.00	44.13	.00	.00	83.00
WT IN 1000 MET. TONS	36.95	.00	.00	36.95	27.90	.00	.00	.00	.00	48.99	.00	.00	44.13	.00	.00	157.97
FU/HEAD IN KILOGRAMS	434.71	.00	.00	434.71	492.35	.00	.00	.00	.00	216.13	.00	.00	1297.99	.00	.00	2441.18
OTHER DAIRY																
FEED UNITS IN 1000'S	8.18	.00	.00	8.18	.00	.00	.00	.00	.00	.00	.00	.00	15.82	.00	.00	24.00
WT IN 1000 MET. TONS	20.45	.00	.00	20.45	.00	.00	.00	.00	.00	.00	.00	.00	15.82	.00	.00	36.27
FU/HEAD IN KILOGRAMS	629.23	.00	.00	629.23	.00	.00	.00	.00	.00	.00	.00	.00	1216.92	.00	.00	1846.15
CATTLE ON FEED																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
OTHER BEEF																
FEED UNITS IN 1000'S	3.15	.00	.00	3.15	.00	.00	.00	.00	.00	.00	.00	.00	35.85	.00	.00	39.00
WT IN 1000 MET. TONS	7.69	.00	.00	7.69	.00	.00	.00	.00	.00	.00	.00	.00	35.85	.00	.00	43.53
FU/HEAD IN KILOGRAMS	136.99	.00	.00	136.99	.00	.00	.00	.00	.00	.00	.00	.00	1558.66	.00	.00	1695.65
SHEEP ON FEED																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.02
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.02
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP																
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.98	.00	.00	1.98
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.98	.00	.00	1.98
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	396.00	.00	.00	396.00
HORSES AND MULES ...																
FEED UNITS IN 1000'S	7.17	.00	.00	7.17	.00	.00	.00	.00	.00	.00	.00	.00	20.83	.00	.00	28.00
WT IN 1000 MET. TONS	17.92	.00	.00	17.92	.00	.00	.00	.00	.00	.00	.00	.00	20.83	.00	.00	38.76
FU/HEAD IN KILOGRAMS	1792.50	.00	.00	1792.50	.00	.00	.00	.00	.00	.00	.00	.00	5207.50	.00	.00	7000.00
TOTAL FEED UNITS ...	33.28	.00	.00	33.28	16.74	.00	.00	.00	.00	7.35	.00	.00	118.63	.00	.00	176.00
TOTAL WEIGHT	83.01	.00	.00	83.01	27.90	.00	.00	.00	.00	48.99	.00	.00	118.63	.00	.00	278.53

1973 ROUGHAGE REQUIREMENTS FOR NEW JERSEY

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:	CORN	SILAGE SORGHUM:	PASTURE:	TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE					
MILK COWS											
FEED UNITS IN 1000'S	10.95	.00	.00	10.95	60.83	.00	60.83	14.67	.00	102.55	189.00
WT IN 1000 WET. TONS	27.38	.00	.00	27.38	101.38	.00	101.38	97.80	.00	102.55	329.11
FU/HEAD IN KILOGRAMS	185.63	.00	.00	185.63	1030.98	.00	1030.98	248.64	.00	1738.14	3203.39
OTHER DAIRY											
FEED UNITS IN 1000'S	5.26	.00	.00	5.26	.00	.00	.00	.00	.00	24.74	30.00
WT IN 1000 WET. TONS	13.16	.00	.00	13.16	.00	.00	.00	.00	.00	24.74	37.89
FU/HEAD IN KILOGRAMS	350.80	.00	.00	350.80	.00	.00	.00	.00	.00	1649.20	2000.00
CATTLE ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 WET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
OTHER BEEF											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	120.00	120.00
WT IN 1000 WET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	120.00	120.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	2307.69	2307.69
SHEEP ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.06	.06
WT IN 1000 WET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.06	.06
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.94	4.94
WT IN 1000 WET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.94	4.94
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	548.89	548.89
HORSES AND MULES											
FEED UNITS IN 1000'S	15.63	.00	.00	15.63	.00	.00	.00	.00	.00	45.37	61.00
WT IN 1000 WET. TONS	39.07	.00	.00	39.07	.00	.00	.00	.00	.00	45.37	84.45
FU/HEAD IN KILOGRAMS	1953.75	.00	.00	1953.75	.00	.00	.00	.00	.00	5671.25	7625.00
TOTAL FEED UNITS ...	31.84	.00	.00	31.84	60.83	.00	60.83	14.67	.00	297.66	405.00
TOTAL WEIGHT	79.61	.00	.00	79.61	101.38	.00	101.38	97.80	.00	297.66	576.45

1973 ROUGHAGE REQUIREMENTS FOR NEW MEXICO

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF			SILAGE			PASTURE: TOTAL		
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF	CORN	SORGHUM:	CORN	SORGHUM:				
MILK COWS															
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.31	46.03	94.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	7.26	46.03	185.91
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	43.56	1534.17	3133.33
OTHER DAIRY															
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	16.48	25.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	16.48	30.68
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1648.00	2500.00
CATTLE ON FEED															
FEED UNITS IN 1000'S	2.31	.00	.00	2.31	.00	.00	.00	.00	.00	.00	.00	.00	.00	181.69	184.00
WT IN 1000 MET. TONS	5.63	.00	.00	5.63	.00	.00	.00	.00	.00	.00	.00	.00	.00	181.69	187.32
FU/HEAD IN KILOGRAMS	16.21	.00	.00	16.21	.00	.00	.00	.00	.00	.00	.00	.00	.00	803.95	814.16
OTHER BEEF															
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2877.71	3176.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2877.71	3374.86
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1827.12	2016.51
SHEEP ON FEED															
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.01	4.01
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.01	4.01
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	78.63	78.63
STOCK SHEEP															
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	353.99	353.99
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	353.99	353.99
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	511.55	511.55
HORSES AND MULES ...															
FEED UNITS IN 1000'S	23.06	.00	.00	23.06	.00	.00	.00	.00	.00	.00	.00	.00	.00	66.94	90.00
WT IN 1000 MET. TONS	57.65	.00	.00	57.65	.00	.00	.00	.00	.00	.00	.00	.00	.00	66.94	124.59
FU/HEAD IN KILOGRAMS	419.27	.00	.00	419.27	.00	.00	.00	.00	.00	.00	.00	.00	.00	1217.09	1636.36
TOTAL FEED UNITS ...	25.37	.00	.00	25.37	342.51	.00	.00	10.97	1.31	3546.85	3927.00				
TOTAL WEIGHT	63.28	.00	.00	63.28	570.85	.00	.00	73.12	7.26	3546.85	4261.36				

1973 ROUGHAGE REQUIREMENTS FOR NEW YORK

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:			
MILK COWS													
FEED UNITS IN 1000'S	167.75		.00	167.75	901.39	.00	.00	901.39	171.19	.00	1574.67	2815.00	
WT IN 1000 MET. TONS	419.39		.00	419.39	1502.31	.00	.00	1502.31	1141.25	.00	1574.67	4637.62	
FU/HEAD IN KILOGRAMS	183.54		.00	183.54	986.20	.00	.00	986.20	187.29	.00	1722.84	3079.87	
OTHER DAIRY													
FEED UNITS IN 1000'S	292.32		.00	292.32	.00	.00	.00	.00	.00	.00	565.68	858.00	
WT IN 1000 MET. TONS	730.89		.00	730.89	.00	.00	.00	.00	.00	.00	565.68	1298.48	
FU/HEAD IN KILOGRAMS	930.96		.00	930.96	.00	.00	.00	.00	.00	.00	1801.53	2732.48	
CATTLE ON FEED													
FEED UNITS IN 1000'S	4.46		.00	4.46	.00	.00	.00	.00	.00	.00	4.54	9.00	
WT IN 1000 MET. TONS	10.88		.00	10.88	.00	.00	.00	.00	.00	.00	4.54	15.42	
FU/HEAD IN KILOGRAMS	318.57		.00	318.57	.00	.00	.00	.00	.00	.00	324.29	642.86	
OTHER BEEF													
FEED UNITS IN 1000'S	69.90		.00	69.90	.00	.00	.00	.00	.00	.00	1079.10	1149.00	
WT IN 1000 MET. TONS	170.50		.00	170.50	.00	.00	.00	.00	.00	.00	1079.10	1249.59	
FU/HEAD IN KILOGRAMS	130.42		.00	130.42	.00	.00	.00	.00	.00	.00	2013.24	2143.66	
SHEEP ON FEED													
FEED UNITS IN 1000'S	.00		.00	.00	.00	.00	.00	.00	.00	.00	.41	.41	
WT IN 1000 MET. TONS	.00		.00	.00	.00	.00	.00	.00	.00	.00	.41	.41	
FU/HEAD IN KILOGRAMS	.00		.00	.00	.00	.00	.00	.00	.00	.00	31.54	31.54	
STOCK SHEEP													
FEED UNITS IN 1000'S	.00		.00	.00	.00	.00	.00	.00	.00	.00	36.59	36.59	
WT IN 1000 MET. TONS	.00		.00	.00	.00	.00	.00	.00	.00	.00	36.59	36.59	
FU/HEAD IN KILOGRAMS	.00		.00	.00	.00	.00	.00	.00	.00	.00	430.47	430.47	
HORSES AND MULES ...													
FEED UNITS IN 1000'S	91.98		.00	91.98	.00	.00	.00	.00	.00	.00	267.02	359.00	
WT IN 1000 MET. TONS	229.95		.00	229.95	.00	.00	.00	.00	.00	.00	267.02	496.97	
FU/HEAD IN KILOGRAMS	1957.02		.00	1957.02	.00	.00	.00	.00	.00	.00	5681.28	7638.30	
TOTAL FEED UNITS ...	626.42		.00	626.42	901.39	.00	.00	901.39	171.19	.00	3528.01	5227.00	
TOTAL WEIGHT	1561.51		.00	1561.51	1502.31	.00	.00	1502.31	1141.25	.00	3528.01	7733.08	

1973 ROUGHAGE REQUIREMENTS FOR NORTH CAROLINA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE	TOTAL	
	IN STATE	EXTRA	OUT STATE	TOT HAY	IN STATE	EXTRA	OUT STATE	TOT ALF	CORN			SORGHUM
MILK COWS												
FEED UNITS IN 1000'S	92.26	.00	.00	92.26	11.84	.00	.00	11.84	46.10	12.21	256.59	419.00
WT IN 1000 MET. TONS	230.64	.00	.00	230.64	19.73	.00	.00	19.73	307.36	67.86	256.59	882.18
FU/HEAD IN KILOGRAMS	569.48	.00	.00	569.48	73.07	.00	.00	73.07	284.59	75.40	1583.87	2586.42
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	104.00	104.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	104.00	104.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2122.45	2122.45
CATTLE ON FEED												
FEED UNITS IN 1000'S	9.92	.00	.00	9.92	.00	.00	.00	.00	.00	.00	10.08	20.00
WT IN 1000 MET. TONS	24.20	.00	.00	24.20	.00	.00	.00	.00	.00	.00	10.08	34.28
FU/HEAD IN KILOGRAMS	220.44	.00	.00	220.44	.00	.00	.00	.00	.00	.00	224.00	444.44
OTHER BEEF												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1768.00	1768.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1768.00	1768.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2132.69	2132.69
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.07	.07
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.07	.07
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.93	5.93
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.93	5.93
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	494.17	494.17
HORSES AND MULES												
FEED UNITS IN 1000'S	37.41	.00	.00	37.41	.00	.00	.00	.00	.00	.00	108.59	146.00
WT IN 1000 MET. TONS	93.52	.00	.00	93.52	.00	.00	.00	.00	.00	.00	108.59	202.12
FU/HEAD IN KILOGRAMS	247.75	.00	.00	247.75	.00	.00	.00	.00	.00	.00	719.14	966.89
TOTAL FEED UNITS	139.59	.00	.00	139.59	11.84	.00	.00	11.84	46.10	12.21	2253.26	2463.00
TOTAL WEIGHT	348.36	.00	.00	348.36	19.73	.00	.00	19.73	307.36	67.86	2253.26	2996.57

1973 ROUGHAGE REQUIREMENTS FOR NORTH DAKOTA

LIVESTOCK TYPE	HAY			ALFALFA			:			SILAGE			:			PASTURE:			TOTAL		
	IN STATE	EXTRA	OUT STATE	TOT	HAY:IN STATE	EXTRA	OUT STATE	TOT	ALF:	CORN	SORGHUM:										
MILK COWS																					
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	135.21	54.08	.00	189.29	53.72	.20	112.79	356.00								
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	225.35	90.13	.00	315.48	358.16	1.09	112.79	787.52								
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	1048.14	419.22	.00	1467.36	416.47	1.52	874.34	2759.69								
OTHER DAIRY																					
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	23.85	11.92	.00	35.77	.00	.00	34.23	70.00								
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	39.75	19.87	.00	59.62	.00	.00	34.23	93.85								
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	795.00	397.33	.00	1192.33	.00	.00	1141.00	2333.33								
CATTLE ON FEED																					
FEED UNITS IN 1000'S	10.92	5.45	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.64	22.00								
WT IN 1000 MET. TONS	26.61	13.29	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.64	45.54								
FU/HEAD IN KILOGRAMS	232.13	115.96	.00	.00	.00	.00	.00	.00	.00	.00	.00	120.00	469.09								
OTHER BEEF																					
FEED UNITS IN 1000'S	.00	266.53	.00	.00	.00	664.03	231.50	.00	895.53	.00	.00	3258.94	4421.00								
WT IN 1000 MET. TONS	.00	650.06	.00	.00	.00	1106.72	385.84	.00	1492.56	.00	.00	3258.94	5401.56								
FU/HEAD IN KILOGRAMS	.00	117.10	.00	.00	.00	291.75	101.72	.00	393.47	.00	.00	1431.87	1942.44								
SHEEP ON FEED																					
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	1.31	.00	.00	1.31	.00	.00	.17	1.48								
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	2.18	.00	.00	2.18	.00	.00	.17	2.35								
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	11.91	.00	.00	11.91	.00	.00	1.55	13.45								
STOCK SHEEP																					
FEED UNITS IN 1000'S	.00	3.62	.00	.00	.00	4.83	.00	.00	4.83	.00	.00	122.07	130.52								
WT IN 1000 MET. TONS	.00	8.62	.00	.00	.00	8.05	.00	.00	8.05	.00	.00	122.07	138.74								
FU/HEAD IN KILOGRAMS	.00	12.66	.00	.00	.00	16.89	.00	.00	16.89	.00	.00	426.82	456.36								
HORSES AND MULES ...																					
FEED UNITS IN 1000'S	13.58	10.66	.00	.00	.00	.00	.00	.00	.00	.00	.00	28.56	53.00								
WT IN 1000 MET. TONS	33.95	27.15	.00	.00	.00	.00	.00	.00	.00	.00	.00	28.56	49.66								
FU/HEAD IN KILOGRAMS	230.17	184.07	.00	.00	.00	.00	.00	.00	.00	.00	.00	484.07	898.31								
TOTAL FEED UNITS ...	24.49	286.46	.00	.00	.00	829.23	297.50	.00	1126.73	53.72	.20	3562.40	5054.00								
TOTAL WEIGHT	60.56	699.13	.00	.00	.00	1382.05	495.84	.00	1877.89	358.16	1.09	3562.40	6559.22								

1973 ROUGHAGE REQUIREMENTS FOR OHIO

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:	CORN	SILAGE	SORGHUM:	PASTURE:	TOTAL
	IN STATE	EXTRA	CUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE						
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	466.77	70.87	.00	691.36	1229.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	777.95	472.47	.00	691.36	1941.78	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	1075.51	163.30	.00	1592.99	2831.80	
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	110.73	.00	.00	214.27	325.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	184.55	.00	.00	214.27	398.82	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	838.86	.00	.00	1623.26	2462.12	
CATTLE ON FEED												
FEED UNITS IN 1000'S	25.78	.00	.00	25.78	.00	.00	.00	.00	.00	26.22	52.00	
WT IN 1000 MET. TONS	62.89	.00	.00	62.88	.00	.00	.00	.00	.00	26.22	89.10	
FU/HEAD IN KILOGRAMS	85.93	.00	.00	85.93	.00	.00	.00	.00	.00	87.40	173.33	
OTHER BEEF												
FEED UNITS IN 1000'S	362.37	.00	.00	362.37	.00	.00	6.69	.00	.00	2646.94	3016.00	
WT IN 1000 MET. TONS	883.83	.00	.00	883.83	.00	.00	11.15	.00	.00	2646.94	3541.92	
FU/HEAD IN KILOGRAMS	231.11	.00	.00	231.10	.00	.00	4.27	.00	.00	1688.10	1923.47	
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.92	2.92	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.92	2.92	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	28.08	28.08	
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	258.08	258.08	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	258.08	258.08	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	497.26	497.26	
HORSES AND MULES												
FEED UNITS IN 1000'S	24.80	.00	.00	84.80	.00	.00	.00	.00	.00	246.20	331.00	
WT IN 1000 MET. TONS	212.00	.00	.00	212.00	.00	.00	.00	.00	.00	246.20	458.20	
FU/HEAD IN KILOGRAMS	1177.78	.00	.00	1177.78	.00	.00	.00	.00	.00	3419.44	4597.22	
TOTAL FEED UNITS ...	472.95	.00	.00	472.95	584.19	.00	584.19	70.87	.00	4085.99	5214.00	
TOTAL WEIGHT	1158.71	.00	.00	1158.71	973.65	.00	973.65	472.47	.00	4085.99	6690.82	

1973 ROUSHAGE REQUIREMENTS FOR OKLAHOMA

LIVESTOCK TYPE	IN STATE	HAY		TOT HAY:IN STATE	ALFALFA		TOT ALF:	SILAGE		SORGHUM:	PASTURE:	TOTAL
		EXTRA	OUT STATE		EXTRA	OUT STATE		CORN	SORGHUM:			
MILK COWS												
FEED UNITS IN 1000'S												
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CATTLE ON FEED												
FEED UNITS IN 1000'S	90.73	.00	.00	90.73	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	221.29	.00	.00	221.29	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	333.57	.00	.00	333.57	.00	.00	.00	.00	.00	.00	.00	.00
OTHER BEEF												
FEED UNITS IN 1000'S	198.37	.00	.00	198.37	462.79	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	483.82	.00	.00	483.82	771.31	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	36.15	.00	.00	36.15	84.34	.00	.00	.00	.00	.00	.00	.00
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
HORSES AND MULES												
FEED UNITS IN 1000'S	101.97	.00	.00	101.97	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	254.93	.00	.00	254.93	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	1172.07	.00	.00	1172.07	.00	.00	.00	.00	.00	.00	.00	.00
TOTAL FEED UNITS ...	391.07	.00	.00	391.07	607.46	.00	.00	17.96	.00	16.33	12876.18	13909.00
TOTAL WEIGHT	960.04	.00	.00	960.04	1012.43	.00	.00	119.75	.00	90.72	12876.18	15059.12

1973 ROUGHAGE REQUIREMENTS FOR OREGON

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			TOTAL	
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:		
MILK COWS											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	15.78	.00	152.91	272.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	105.23	.00	152.91	430.32
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	167.92	.00	1626.65	2893.62
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	52.08	79.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	52.08	96.95
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1736.00	2633.33
CATTLE ON FEED											
FEED UNITS IN 1000'S	32.23	15.26	.00	47.49	.00	.00	.00	.00	.00	17.51	65.00
WT IN 1000 MET. TONS	78.61	37.21	.00	115.82	.00	.00	.00	.00	.00	17.51	133.33
FU/HEAD IN KILOGRAMS	467.10	221.10	.00	688.20	.00	.00	.00	.00	.00	253.83	942.03
OTHER BEEF											
FEED UNITS IN 1000'S	97.35	.00	.00	97.35	393.95	.00	.00	.00	.00	2779.70	3271.00
WT IN 1000 MET. TONS	237.44	.00	.00	237.44	656.58	.00	.00	.00	.00	2779.70	3673.72
FU/HEAD IN KILOGRAMS	70.04	.00	.00	70.04	283.42	.00	.00	.00	.00	1999.78	2353.24
SHEEP ON FEED											
FEED UNITS IN 1000'S	2.46	.00	.00	2.46	.00	.00	.00	.00	.00	.32	2.78
WT IN 1000 MET. TONS	5.86	.00	.00	5.86	.00	.00	.00	.00	.00	.32	6.18
FU/HEAD IN KILOGRAMS	27.64	.00	.00	27.64	.00	.00	.00	.00	.00	3.60	31.24
STOCK SHEEP											
FEED UNITS IN 1000'S	9.07	.00	.00	9.07	.00	.00	.00	.00	.00	236.15	245.22
WT IN 1000 MET. TONS	21.60	.00	.00	21.60	.00	.00	.00	.00	.00	236.15	257.75
FU/HEAD IN KILOGRAMS	23.56	.00	.00	23.56	.00	.00	.00	.00	.00	613.38	636.94
HORSES AND MULES ...											
FEED UNITS IN 1000'S	65.84	52.67	.00	118.51	.00	.00	.00	.00	.00	138.49	257.00
WT IN 1000 MET. TONS	164.60	131.67	.00	296.27	.00	.00	.00	.00	.00	138.49	434.77
FU/HEAD IN KILOGRAMS	1496.36	1197.05	.00	2693.41	.00	.00	.00	.00	.00	3147.50	5840.91
TOTAL FEED UNITS ...	206.95	67.93	.00	274.88	524.18	.00	.00	15.78	.00	3377.16	4192.00
TOTAL WEIGHT	508.11	168.88	.00	676.99	873.63	.00	.00	105.23	.00	3377.16	5033.01

1973 ROUGHAGE REQUIREMENTS FOR PENNSYLVANIA

LIVESTOCK TYPE	PAY			ALFALFA			TOT ALF			SILAGE		PASTURE		TOTAL
	IN STATE	EXTRA	CUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF	CORN	SORGHUM	CORN	SORGHUM	PASTURE		
MILK COWS														
FEED UNITS IN 1000'S	.00	153.08	.00	153.08	66P.07	.00	66P.07	155.57	.00			776.29		1759.00
AT IN 1000 MET. TONS	.00	397.70	.00	397.70	1113.45	.00	1113.45	1037.10	.00			776.29		3324.53
FU/HEAD IN KILOGRAMS	.00	234.63	.00	234.63	965.35	.00	965.35	229.45	.00			1144.96		2594.40
OTHER DAIRY														
FEED UNITS IN 1000'S	40.73	.00	.00	40.73	92.48	.00	92.48	.00	.00			257.79		391.00
AT IN 1000 MET. TONS	191.83	.00	.00	101.83	154.13	.00	154.13	.00	.00			257.79		513.75
FU/HEAD IN KILOGRAMS	19P.69	.00	.00	194.69	451.11	.00	451.11	.00	.00			1257.51		1907.32
CATTLE ON FEED														
FEED UNITS IN 1000'S	21.82	10.91	.00	32.73	.00	.00	.00	.00	.00			11.27		44.00
AT IN 1000 MET. TONS	53.22	26.61	.00	79.83	.00	.00	.00	.00	.00			11.27		91.10
FU/HEAD IN KILOGRAMS	250.80	125.40	.00	376.21	.00	.00	.00	.00	.00			129.54		505.75
OTHER BEEF														
FEED UNITS IN 1000'S	225.45	.00	.00	225.45	.00	.00	.00	.00	.00			1275.55		1501.00
AT IN 1000 MET. TONS	549.68	.00	.00	549.98	.00	.00	.00	.00	.00			1275.55		1825.43
FU/HEAD IN KILOGRAMS	261.54	.00	.00	261.54	.00	.00	.00	.00	.00			1479.76		1741.30
SHEEP ON FEED														
FEED UNITS IN 1000'S	.66	.00	.00	.66	.00	.00	.00	.00	.00			.08		.74
AT IN 1000 MET. TONS	1.57	.00	.00	1.57	.00	.00	.00	.00	.00			.08		1.65
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00			.00		.00
STOCK SHEEP														
FEED UNITS IN 1000'S	2.41	.00	.00	2.41	.00	.00	.00	.00	.00			62.85		65.26
AT IN 1000 MET. TONS	5.74	.00	.00	5.74	.00	.00	.00	.00	.00			62.85		66.59
FU/HEAD IN KILOGRAMS	16.74	.00	.00	16.74	.00	.00	.00	.00	.00			436.46		453.19
HORSES AND MULES														
FEED UNITS IN 1000'S	33.05	26.44	.00	59.49	.00	.00	.00	.00	.00			69.51		129.00
AT IN 1000 MET. TONS	82.62	66.10	.00	148.73	.00	.00	.00	.00	.00			69.51		218.24
FU/HEAD IN KILOGRAMS	590.18	472.14	.00	1062.32	.00	.00	.00	.00	.00			1241.25		2303.57
TOTAL FEED UNITS ...	324.12	196.43	.00	520.55	760.55	.00	760.55	155.57	.00			2453.34		3890.00
TOTAL WEIGHT	794.86	490.41	.00	1285.27	1267.58	.00	1267.58	1037.10	.00			2453.34		6043.29

1973: ROUGHAGE REQUIREMENTS FOR RHODE ISLAND

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:	SILAGE CORN	: PASTURE: SORGHUM:	TOTAL	
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE					
MILK COWS											
FEED UNITS IN 1000'S	.66	.00	.00	.66	3.26	.00	3.26	1.20	.00	10.88	16.00
WT IN 1000 MET. TONS	1.64	.00	.00	1.64	5.44	.00	5.44	7.98	.00	10.88	25.95
FU/HEAD IN KILOGRAMS	109.67	.00	.00	109.67	544.00	.00	544.00	199.50	.00	1813.50	2666.67
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.00	4.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.00	4.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	2000.00	2000.00
CATTLE CR. FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
OTHER BEEF											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	7.00	7.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	7.00	7.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1750.00	1750.00
SHEEP CR. FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99	.99
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99	.99
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	495.00	495.00
HORSES AND MULES											
FEED UNITS IN 1000'S	1.79	.00	.00	1.79	.00	.00	.00	.00	.00	5.21	7.00
WT IN 1000 MET. TONS	4.48	.00	.00	4.48	.00	.00	.00	.00	.00	5.21	9.69
FU/HEAD IN KILOGRAMS	1790.00	.00	.00	1790.00	.00	.00	.00	.00	.00	5210.00	7000.00
TOTAL FEED UNITS ...	2.45	.00	.00	2.45	3.26	.00	3.26	1.20	.00	28.09	35.00
TOTAL WEIGHT	6.12	.00	.00	6.12	5.44	.00	5.44	7.98	.00	28.09	47.63

1973 FORAGE REQUIREMENTS FOR SOUTH CAROLINA

LIVESTOCK TYPE	MAY			JUNE			JULY			AUG			SEPT			OCT			NOV			TOTAL		
	IN STATE	EXTRA	TOT	IN STATE	EXTRA	TOT	IN STATE	EXTRA	TOT	IN STATE	EXTRA	TOT	IN STATE	EXTRA	TOT	IN STATE	EXTRA	TOT	IN STATE	EXTRA	TOT	SILAGE	PASTURE:	TOTAL
																						CORN	SORGHUM:	
MILK COWS																								
FEED UNITS IN 1000'S	57.35	.00	57.35	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	12.08	6.01	75.56
WT IN 1000 MET. TONS	143.37	.00	143.37	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	80.56	33.38	75.56
FU/HEAD IN KILOGRAMS	910.32	.00	910.32	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	191.81	95.37	1199.33
OTHER DAIRY																								
FEED UNITS IN 1000'S	9.88	.00	9.88	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	19.12
WT IN 1000 MET. TONS	24.70	.00	24.70	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	19.12
FU/HEAD IN KILOGRAMS	658.67	.00	658.67	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1274.67
CATTLE ON FEED																								
FEED UNITS IN 1000'S	4.96	.00	4.96	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.04
WT IN 1000 MET. TONS	12.10	.00	12.10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.04
FU/HEAD IN KILOGRAMS	190.77	.00	190.77	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	193.85
OTHER BEEF																								
FEED UNITS IN 1000'S	22.88	.00	22.88	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1254.12
WT IN 1000 MET. TONS	55.60	.00	55.60	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1254.12
FU/HEAD IN KILOGRAMS	39.17	.00	39.17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2147.47
SHEEP ON FEED																								
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP																								
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.99
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	990.00
HORSES AND MULES																								
FEED UNITS IN 1000'S	25.36	.00	25.36	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	73.64
WT IN 1000 MET. TONS	63.40	.00	63.40	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	73.64
FU/HEAD IN KILOGRAMS	362.29	.00	362.29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1052.00
TOTAL FEED UNITS	120.43	.00	120.43	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	12.08	6.01	1428.48
TOTAL WEIGHT	259.37	.00	259.37	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	80.56	33.38	1428.48

1973 ROUGHAGE REQUIREMENTS FOR SOUTH DAKOTA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			TOTAL	
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF: CORN	SORGHUM:	PASTURE:		
MILK COWS											
FEED UNITS IN 1000'S	.00	.00	.00	.00	176.23	70.49	.00	246.72	147.64	.00	69.64
WT IN 1000 MET. TONS	.00	.00	.00	.00	293.72	117.48	.00	411.20	984.27	.00	69.64
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1036.65	414.65	.00	1451.29	868.47	.00	409.65
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	.00	.00	.00	36.45	18.23	.00	54.68	12.47	.00	39.85
WT IN 1000 MET. TONS	.00	.00	.00	.00	60.75	30.38	.00	91.13	83.13	.00	39.85
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	828.41	414.32	.00	1242.73	283.41	.00	905.68
CATTLE ON FEED											
FEED UNITS IN 1000'S	70.40	35.20	.00	105.60	.00	.00	.00	.00	4.28	18.41	13.71
WT IN 1000 MET. TONS	171.71	85.85	.00	257.56	.00	.00	.00	.00	23.77	73.66	13.71
FU/HEAD IN KILOGRAMS	186.24	93.12	.00	279.37	.00	.00	.00	.00	11.32	48.72	36.26
OTHER BEEF											
FEED UNITS IN 1000'S	.00	533.09	.00	533.09	1286.91	364.61	.00	1651.52	.00	.00	6383.38
WT IN 1000 MET. TONS	.00	1300.22	.00	1300.22	2144.85	607.69	.00	2752.54	.00	.00	6383.38
FU/HEAD IN KILOGRAMS	.00	124.50	.00	124.50	300.54	85.15	.00	385.69	.00	.00	1490.75
SHEEP ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	4.55	.00	.00	4.55	.00	.00	.58
WT IN 1000 MET. TONS	.00	.00	.00	.00	7.58	.00	.00	7.58	.00	.00	.58
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	35.00	.00	.00	35.00	.00	.00	4.46
STOCK SHEEP											
FEED UNITS IN 1000'S	.00	.00	.00	.00	16.76	.00	.00	16.76	.00	.00	436.11
WT IN 1000 MET. TONS	.00	.00	.00	.00	27.93	.00	.00	27.93	.00	.00	436.11
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	16.26	.00	.00	16.26	.00	.00	423.00
HORSES AND MULES ...											
FEED UNITS IN 1000'S	19.73	15.78	.00	35.51	.00	.00	.00	.00	.00	.00	41.49
WT IN 1000 MET. TONS	49.32	39.45	.00	88.77	.00	.00	.00	.00	.00	.00	41.49
FU/HEAD IN KILOGRAMS	328.83	263.00	.00	591.83	.00	.00	.00	.00	.00	.00	691.50
TOTAL FEED UNITS ...	90.13	584.07	.00	674.20	1520.90	453.33	.00	1974.23	164.39	18.41	6984.76
TOTAL WEIGHT	221.03	1425.53	.00	1646.56	2534.83	755.56	.00	3290.39	1091.17	73.66	6984.76

1973 ROUGHAGE REQUIREMENTS FOR TENNESSEE

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE:		TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:	:	
MILK COWS												
FEED UNITS IN 1000'S	42.62	.00	.00	82.62	73.48	.00	.00	73.48	63.93	6.37	184.60	411.00
MT IN 1000 MET. TONS	206.55	.00	.00	206.55	122.47	.00	.00	122.47	426.20	35.38	184.60	975.20
LB/HEAD IN KILOGRAMS	336.50	.00	.00	338.60	301.16	.00	.00	301.16	262.01	26.10	755.56	1684.43
OTHER DAIRY												
FEED UNITS IN 1000'S	38.64	.00	.00	38.64	.00	.00	.00	.00	.00	.00	75.16	114.00
MT IN 1000 MET. TONS	97.12	.00	.00	97.12	.00	.00	.00	.00	.00	.00	75.16	172.26
LB/HEAD IN KILOGRAMS	532.25	.00	.00	532.05	.00	.00	.00	.00	.00	.00	1029.59	1561.64
CATTLE ON FEED												
FEED UNITS IN 1000'S	1.49	.00	.00	1.49	.00	.00	.00	.00	.00	.00	1.51	3.00
MT IN 1000 MET. TONS	3.63	.00	.00	3.63	.00	.00	.00	.00	.00	.00	1.51	5.14
LB/HEAD IN KILOGRAMS	106.43	.00	.00	105.43	.00	.00	.00	.00	.00	.00	107.86	214.29
OTHER BEEF												
FEED UNITS IN 1000'S	272.58	.00	.00	272.58	.00	.00	.00	.00	.00	.00	3819.42	4092.00
MT IN 1000 MET. TONS	664.53	.00	.00	664.83	.00	.00	.00	.00	.00	.00	3819.42	4484.25
LB/HEAD IN KILOGRAMS	123.73	.00	.00	123.73	.00	.00	.00	.00	.00	.00	1733.74	1857.47
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10	.10
MT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.10	.10
LB/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.60	.60
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.90	8.90
MT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.90	8.90
LB/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	342.31	342.31
HORSES AND MULES												
FEED UNITS IN 1000'S	46.84	.00	.00	46.84	.00	.00	.00	.00	.00	.00	136.12	163.00
MT IN 1000 MET. TONS	117.20	.00	.00	117.20	.00	.00	.00	.00	.00	.00	136.12	253.32
LB/HEAD IN KILOGRAMS	330.14	.00	.00	330.14	.00	.00	.00	.00	.00	.00	958.59	1288.73
TOTAL FEED UNITS	442.41	.00	.00	442.41	73.48	.00	.00	73.48	63.93	6.37	4225.81	4812.00
TOTAL WEIGHT	1089.31	.00	.00	1089.31	122.47	.00	.00	122.47	426.20	35.38	4225.81	5899.17

1973 ROUGHAGE REQUIREMENTS FOR TEXAS

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			PASTURE: TOTAL	
	IN STATE	EXTRA	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	SORGHUM:			
MILK COWS											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	282.19	48.01	19.40	393.40	743.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	470.32	320.06	107.77	393.40	1291.55	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	783.86	133.36	53.88	1092.73	2063.89	
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	75.64	.00	.00	146.36	222.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	126.07	.00	.00	146.36	272.43	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	713.58	.00	.00	1380.75	2094.34	
CATTLE ON FEED											
FEED UNITS IN 1000'S	587.03	.00	587.03	.00	.00	.00	.00	.00	596.97	1184.00	
WT IN 1000 MET. TONS	1431.78	.00	1431.78	.00	.00	.00	.00	.00	596.97	2028.75	
FU/HEAD IN KILOGRAMS	261.48	.00	261.48	.00	.00	.00	.00	.00	265.91	527.39	
OTHER BEEF											
FEED UNITS IN 1000'S	51.44	.00	51.44	.00	.00	19.38	.00	.00	27709.17	27780.00	
WT IN 1000 MET. TONS	125.47	.00	125.47	.00	.00	32.31	.00	.00	27709.17	27866.95	
FU/HEAD IN KILOGRAMS	3.52	.00	3.52	.00	.00	1.32	.00	.00	1893.42	1898.32	
SHEEP ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	25.40	25.40	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	25.40	25.40	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	74.93	74.93	
STOCK SHEEP											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	2242.60	2242.60	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	2242.60	2242.60	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	780.03	780.03	
HORSES AND MULES ...											
FEED UNITS IN 1000'S	186.77	.00	186.77	.00	.00	.00	.00	.00	542.23	729.00	
WT IN 1000 MET. TONS	466.92	.00	466.92	.00	.00	.00	.00	.00	542.23	1009.16	
FU/HEAD IN KILOGRAMS	794.77	.00	794.77	.00	.00	.00	.00	.00	2307.35	3102.13	
TOTAL FEED UNITS ...	825.24	.00	825.24	.00	.00	377.21	48.01	19.40	31656.13	32926.00	
TOTAL WEIGHT	2024.18	.00	2024.18	.00	.00	628.69	320.06	107.77	31656.13	34736.83	

1973 ROUGHAGE REQUIREMENTS FOR UTAH

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF	SILAGE		PASTURE:	TOTAL	
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE		CORN	SORGHUM:			
MILK COWS												
FEED UNITS IN 1000'S	.00	.00	.00	.00	99.89	39.95	.00	139.84	31.92	.00	91.24	263.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	166.48	66.58	.00	233.07	212.83	.00	91.24	537.13
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	1331.87	532.67	.00	1864.53	425.66	.00	1216.47	3506.67
OTHER DAIRY												
FEED UNITS IN 1000'S	.00	.00	.00	.00	33.73	16.86	.00	50.59	.00	.00	48.41	99.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	56.22	28.10	.00	84.32	.00	.00	48.41	132.73
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	822.68	411.22	.00	1233.90	.00	.00	1180.73	2414.63
CATTLE ON FEED												
FEED UNITS IN 1000'S	25.29	.00	.00	25.29	.00	.00	.00	.00	.00	.00	25.71	51.00
WT IN 1000 MET. TONS	61.68	.00	.00	61.68	.00	.00	.00	.00	.00	.00	25.71	87.39
FU/HEAD IN KILOGRAMS	477.17	.00	.00	477.17	.00	.00	.00	.00	.00	.00	485.09	962.25
OTHER BEEF												
FEED UNITS IN 1000'S	.00	.00	.00	.00	233.41	86.34	.00	319.75	.00	.00	1234.25	1554.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	389.62	143.90	.00	532.92	.00	.00	1234.25	1767.17
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	329.68	121.95	.00	451.63	.00	.00	1743.29	2194.92
SHEEP ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	4.12	.00	.00	4.12	.00	.00	.53	4.65
WT IN 1000 MET. TONS	.00	.00	.00	.00	6.87	.00	.00	6.87	.00	.00	.53	7.40
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	48.47	.00	.00	48.47	.00	.00	6.24	54.71
STOCK SHEEP												
FEED UNITS IN 1000'S	.00	.00	.00	.00	15.18	.00	.00	15.18	.00	.00	395.17	410.35
WT IN 1000 MET. TONS	.00	.00	.00	.00	25.30	.00	.00	25.30	.00	.00	395.17	420.47
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	18.51	.00	.00	18.51	.00	.00	481.91	500.43
HORSES AND MULES ...												
FEED UNITS IN 1000'S	32.54	1.57	.00	34.11	.00	.00	.00	.00	.00	.00	92.89	127.00
WT IN 1000 MET. TONS	81.35	3.94	.00	85.29	.00	.00	.00	.00	.00	.00	92.89	178.17
FU/HEAD IN KILOGRAMS	1049.68	50.80	.00	1100.48	.00	.00	.00	.00	.00	.00	2996.30	4096.77
TOTAL FEED UNITS ...	57.83	1.57	.00	59.40	386.33	143.15	.00	529.48	31.92	.00	1886.19	2509.00
TOTAL WEIGHT	143.03	3.94	.00	146.97	643.88	238.59	.00	882.47	212.83	.00	1888.19	3130.46

1973 ROUGHAGE REQUIREMENTS FOR VERMONT

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF	SILAGE			PASTURE:	TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:	IN STATE	EXTRA		CORN	SORGHUM:			
MILK COWS												
FEED UNITS IN 1000'S	93.08	10.40	.00	103.48	92.26	.00	92.26	26.45	.00	265.80	488.00	
WT IN 1000 MET. TONS	232.70	26.01	.00	258.70	153.77	.00	153.77	176.36	.00	265.80	854.64	
FU/HEAD IN KILOGRAMS	479.78	53.62	.00	533.41	475.58	.00	475.58	136.36	.00	1370.12	2515.46	
OTHER DAIRY												
FEED UNITS IN 1000'S	37.14	.00	.00	37.14	.00	.00	.00	.00	.00	71.86	109.00	
WT IN 1000 MET. TONS	92.85	.00	.00	92.85	.00	.00	.00	.00	.00	71.86	164.71	
FU/HEAD IN KILOGRAMS	599.03	.00	.00	599.03	.00	.00	.00	.00	.00	1159.03	1758.06	
CATTLE ON FEED												
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
OTHER BEEF												
FEED UNITS IN 1000'S	18.32	.00	.00	18.32	.00	.00	.00	.00	.00	103.68	122.00	
WT IN 1000 MET. TONS	44.68	.00	.00	44.68	.00	.00	.00	.00	.00	103.68	148.36	
FU/HEAD IN KILOGRAMS	220.72	.00	.00	220.72	.00	.00	.00	.00	.00	1249.16	1469.88	
SHEEP ON FEED												
FEED UNITS IN 1000'S	.02	.00	.00	.02	.00	.00	.00	.00	.00	.00	.02	
WT IN 1000 MET. TONS	.05	.00	.00	.05	.00	.00	.00	.00	.00	.00	.05	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	
STOCK SHEEP												
FEED UNITS IN 1000'S	.07	.00	.00	.07	.00	.00	.00	.00	.00	1.91	1.98	
WT IN 1000 MET. TONS	.17	.00	.00	.17	.00	.00	.00	.00	.00	1.91	2.08	
FU/HEAD IN KILOGRAMS	11.67	.00	.00	11.67	.00	.00	.00	.00	.00	318.33	330.00	
HORSES AND MULES												
FEED UNITS IN 1000'S	6.40	5.12	.00	11.52	.00	.00	.00	.00	.00	13.48	25.00	
WT IN 1000 MET. TONS	16.00	12.80	.00	28.80	.00	.00	.00	.00	.00	13.48	42.28	
FU/HEAD IN KILOGRAMS	640.00	512.00	.00	1152.00	.00	.00	.00	.00	.00	1348.00	2500.00	
TOTAL FEED UNITS ...	155.03	15.52	.00	170.55	92.26	.00	92.26	26.45	.00	456.73	746.00	
TOTAL WEIGHT	386.44	38.81	.00	425.25	153.77	.00	153.77	176.36	.00	456.73	1212.11	

1973 ROUGHAGE REQUIREMENTS FOR VIRGINIA

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:IN STATE	EXTRA	OUT STATE	
MILK COWS										
FEED UNITS IN 1000'S	92.98	.00	.00	92.98	.00	.00	88.18	69.73	3.63	477.00
WT IN 1000 MET. TONS	232.45	.00	.00	232.45	.00	.00	146.97	464.85	20.14	1066.89
FU/HEAD IN KILOGRAMS	540.57	.00	.00	540.57	.00	.00	512.69	405.39	21.08	2773.26
OTHER DAIRY										
FEED UNITS IN 1000'S	53.83	.00	.00	53.83	.00	.00	.00	.00	.00	158.00
WT IN 1000 MET. TONS	134.57	.00	.00	134.57	.00	.00	.00	.00	.00	238.75
FU/HEAD IN KILOGRAMS	780.14	.00	.00	780.14	.00	.00	.00	.00	.00	2289.86
CATTLE ON FEED										
FEED UNITS IN 1000'S	4.46	.00	.00	4.46	.00	.00	.00	.00	.00	9.00
WT IN 1000 MET. TONS	10.88	.00	.00	10.88	.00	.00	.00	.00	.00	15.42
FU/HEAD IN KILOGRAMS	114.36	.00	.00	114.36	.00	.00	.00	.00	.00	230.77
OTHER BEEF										
FEED UNITS IN 1000'S	243.63	.00	.00	243.63	.00	.00	.00	.00	.00	3548.00
WT IN 1000 MET. TONS	594.21	.00	.00	594.21	.00	.00	.00	.00	.00	3898.59
FU/HEAD IN KILOGRAMS	184.01	.00	.00	184.01	.00	.00	.00	.00	.00	2679.76
SHEEP ON FEED										
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.24
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.24
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP										
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	109.76
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	109.76
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	627.20
HORSES AND MULES ...										
FEED UNITS IN 1000'S	46.88	.00	.00	46.88	.00	.00	.00	.00	.00	183.00
WT IN 1000 MET. TONS	117.20	.00	.00	117.20	.00	.00	.00	.00	.00	253.32
FU/HEAD IN KILOGRAMS	538.85	.00	.00	538.85	.00	.00	.00	.00	.00	2183.45
TOTAL FEED UNITS ...	441.77	.00	.00	441.77	.00	.00	88.18	69.73	3.63	4486.00
TOTAL WEIGHT	1089.31	.00	.00	1089.31	.00	.00	146.97	464.85	20.14	5603.96

1973 ROUGHAGE REQUIREMENTS FOR WASHINGTON

LIVESTOCK TYPE	HAY			ALFALFA			SILAGE			TOTAL
	IN STATE	EXTRA	TOT	IN STATE	EXTRA	TOT	CORN	SORGHUM	PASTURE	
MILK COWS										
FEED UNITS IN 1000'S	.00	.00	.00	.00	82.04	82.04	31.24	.00	221.63	540.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	136.73	136.73	208.29	.00	221.63	908.47
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	443.46	443.46	1552.05	.00	1197.98	2918.92
OTHER DAIRY										
FEED UNITS IN 1000'S	.00	.00	.00	.00	27.77	27.77	.00	.00	79.70	163.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	46.28	46.28	.00	.00	79.70	218.53
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	408.38	408.38	.00	.00	1172.06	2397.66
CATTLE ON FEED										
FEED UNITS IN 1000'S	56.52	25.90	82.42	.00	.00	.00	.00	.00	31.58	114.00
WT IN 1000 MET. TONS	137.85	63.17	201.02	.00	.00	.00	.00	.00	31.58	232.60
FU/HEAD IN KILOGRAMS	314.00	143.88	457.88	.00	.00	.00	.00	.00	175.45	633.33
OTHER BEEF										
FEED UNITS IN 1000'S	.00	.00	.00	.00	81.23	81.23	.00	.00	1489.20	1848.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	135.39	135.39	.00	.00	1489.20	2087.20
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	71.51	71.51	.00	.00	1310.91	1626.76
SHEEP ON FEED										
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.06	.56
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.06	.89
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	2.61	24.35
STOCK SHEEP										
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	47.61	49.44
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	47.61	50.66
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	449.15	466.42
HORSES AND MULES										
FEED UNITS IN 1000'S	57.39	45.91	103.30	.00	.00	.00	.00	.00	120.70	224.00
WT IN 1000 MET. TONS	143.47	114.77	258.25	.00	.00	.00	.00	.00	120.70	378.95
FU/HEAD IN KILOGRAMS	1551.08	1240.81	2791.89	.00	.00	.00	.00	.00	3262.16	6054.05
TOTAL FEED UNITS	113.91	71.81	185.72	.00	191.04	191.04	31.24	.00	1990.48	2939.00
TOTAL WEIGHT	281.33	177.94	459.27	.00	318.40	318.40	208.29	.00	1990.48	3877.31

1973 ROUGHAGE REQUIREMENTS FOR WEST VIRGINIA

LIVESTOCK TYPE	MAY			ALFALFA			TOT ALF	SILAGE		PASTURE	TOTAL
	IN STATE	EXTRA	OUT STATE	TOT MAY	IN STATE	EXTRA		CORN	SORGHUM		
MILK COWS											
FEED UNITS IN 1000'S	.00	13.08	.00	13.08	45.20	.00	.00	45.20	.00	41.76	115.00
WT IN 1000 MET. TONS	.00	45.20	.00	45.20	75.33	.00	.00	75.33	.00	41.76	255.37
FU/HEAD IN KILOGRAMS	.00	429.47	.00	429.47	1051.16	.00	.00	1051.16	.00	971.12	2767.44
OTHER DAIRY											
FEED UNITS IN 1000'S	.00	4.77	.00	4.77	9.54	.00	.00	9.54	.00	13.69	28.00
WT IN 1000 MET. TONS	.00	11.92	.00	11.92	15.90	.00	.00	15.90	.00	13.69	41.52
FU/HEAD IN KILOGRAMS	.00	340.71	.00	340.71	681.43	.00	.00	681.43	.00	977.86	2000.00
CATTLE ON FEED											
FEED UNITS IN 1000'S	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
WT IN 1000 MET. TONS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
OTHER BEEF											
FEED UNITS IN 1000'S	104.14	54.60	.00	158.74	36.30	.00	.00	36.30	.00	745.56	935.00
WT IN 1000 MET. TONS	254.00	131.70	.00	385.70	60.50	.00	.00	60.50	.00	745.56	1186.76
FU/HEAD IN KILOGRAMS	240.51	124.70	.00	365.21	83.83	.00	.00	83.83	.00	1710.31	2159.35
SHEEP ON FEED											
FEED UNITS IN 1000'S	.65	.00	.00	.65	.00	.00	.00	.00	.00	.08	.73
WT IN 1000 MET. TONS	1.55	.00	.00	1.55	.00	.00	.00	.00	.00	.08	1.63
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
STOCK SHEEP											
FEED UNITS IN 1000'S	2.38	.00	.00	2.38	.00	.00	.00	.00	.00	61.89	64.27
WT IN 1000 MET. TONS	5.67	.00	.00	5.67	.00	.00	.00	.00	.00	61.89	67.56
FU/HEAD IN KILOGRAMS	16.76	.00	.00	16.76	.00	.00	.00	.00	.00	435.85	452.61
HORSES AND MULES ...											
FEED UNITS IN 1000'S	14.60	11.68	.00	26.28	.00	.00	.00	.00	.00	35.72	57.00
WT IN 1000 MET. TONS	36.50	29.20	.00	65.70	.00	.00	.00	.00	.00	35.72	96.42
FU/HEAD IN KILOGRAMS	374.36	299.49	.00	673.85	.00	.00	.00	.00	.00	727.69	1461.54
TOTAL FEED UNITS ...	121.77	88.53	.00	210.30	91.04	.00	.00	91.04	.00	865.70	1204.00
TOTAL WEIGHT	297.72	218.02	.00	515.74	151.73	.00	.00	151.73	.00	865.70	1649.25

1973 ROUGHAGE REQUIREMENTS FOR WISCONSIN

LIVESTOCK TYPE	HAY			ALFALFA			TOT ALF:		SILAGE		SORGHUM:		PASTURE:	TOTAL
	IN STATE	EXTRA	OUT STATE	TOT HAY:IN STATE	EXTRA	OUT STATE	TOT ALF:	CORN	CORN	SORGHUM:	PASTURE:	TOTAL		
MILK COWS														
FEED UNITS IN 1000'S	.63	408.85	.00	408.85	2241.21	129.60	.00	2370.80	16.47	.00	3104.88	5901.00		
WT IN 1000 MET. TONS	.00	1022.12	.00	1022.12	3735.33	216.00	.00	3951.34	109.77	.00	3104.88	8152.11		
FU/HEAD IN KILOGRAMS	.00	222.81	.00	222.81	1221.36	70.63	.00	1291.99	8.97	.00	1692.03	3215.80		
OTHER DAIRY														
FEED UNITS IN 1000'S	.00	.00	.00	.00	549.89	.00	.00	549.89	.00	.00	1064.11	1614.00		
WT IN 1000 MET. TONS	.00	.00	.00	.00	916.48	.00	.00	916.48	.00	.00	1064.11	1980.59		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	779.99	.00	.00	779.99	.00	.00	1509.38	2289.36		
CATTLE ON FEED														
FEED UNITS IN 1000'S	11.30	5.95	.00	17.85	.00	.00	.00	.00	.00	.00	6.15	24.00		
WT IN 1000 MET. TONS	29.02	14.51	.00	43.54	.00	.00	.00	.00	.00	.00	6.15	49.69		
FU/HEAD IN KILOGRAMS	23.22	41.61	.00	124.83	.00	.00	.00	.00	.00	.00	43.01	167.83		
OTHER BEEF														
FEED UNITS IN 1000'S	.00	.00	.00	.00	509.63	.00	.00	509.63	.00	.00	2883.37	3393.00		
WT IN 1000 MET. TONS	.00	.00	.00	.00	849.38	.00	.00	849.38	.00	.00	2883.37	3732.75		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	290.72	.00	.00	290.72	.00	.00	1644.82	1935.54		
SHEEP ON FEED														
FEED UNITS IN 1000'S	.00	.00	.00	.00	.46	.00	.00	.46	.00	.00	.06	.52		
WT IN 1000 MET. TONS	.00	.00	.00	.00	.77	.00	.00	.77	.00	.00	.06	.83		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	30.67	.00	.00	30.67	.00	.00	4.00	34.67		
STOCK SHEEP														
FEED UNITS IN 1000'S	.00	.00	.00	.00	1.68	.00	.00	1.68	.00	.00	43.80	45.48		
WT IN 1000 MET. TONS	.00	.00	.00	.00	2.80	.00	.00	2.80	.00	.00	43.80	46.60		
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	15.41	.00	.00	15.41	.00	.00	401.83	417.25		
HORSES AND MULES														
FEED UNITS IN 1000'S	34.59	27.67	.00	62.26	.00	.00	.00	.00	.00	.00	72.74	135.00		
WT IN 1000 MET. TONS	56.48	69.18	.00	155.65	.00	.00	.00	.00	.00	.00	72.74	228.39		
FU/HEAD IN KILOGRAMS	596.38	477.07	.00	1073.45	.00	.00	.00	.00	.00	.00	1254.14	2327.59		
TOTAL FEED UNITS	46.49	442.47	.00	488.96	3302.86	129.60	.00	3432.46	16.47	.00	7175.11	11113.00		
TOTAL WEIGHT	115.50	1105.81	.00	1221.31	5504.77	216.00	.00	5720.77	109.77	.00	7175.11	14226.96		

1973 ROUGHAGE REQUIREMENTS FOR WYOMING

LIVESTOCK TYPE	MAY			:			ALFALFA			:			SILAGE			:			PASTURE:			TOTAL		
	IN STATE	EXTRA	OUT STATE	TOT	HAY:IN STATE	EXTRA	OUT STATE	TOT	ALF:	CORN	SORGHUM:													
MILK COWS																								
FEED UNITS IN 1000'S	.29	1.43	.00	1.72	17.85	.00	.00	.00	17.85	14.96	.00								12.36				47.00	
WT IN 1000 MET. TONS	.00	4.57	.00	4.57	29.75	.00	.00	.00	29.75	99.73	.00								12.36				145.42	
FU/HEAD IN KILOGRAMS	.03	130.57	.00	130.57	1275.00	.00	.00	.00	1275.00	1068.57	.00								883.00				3357.14	
OTHER DAIRY																								
FEED UNITS IN 1000'S	.00	.00	.00	.00	2.73	.00	.00	.00	2.73	.93	.00								4.34				8.00	
WT IN 1000 MET. TONS	.00	.00	.00	.00	4.55	.00	.00	.00	4.55	6.20	.00								4.34				15.09	
FU/HEAD IN KILOGRAMS	.00	.00	.00	.00	910.00	.00	.00	.00	910.00	310.00	.00								1445.67				2666.67	
CATTLE ON FEED																								
FEED UNITS IN 1000'S	4.34	3.47	.00	7.81	.00	.00	.00	.00	.00	.53	.00								3.06				14.00	
WT IN 1000 MET. TONS	16.93	8.46	.00	25.39	.00	.00	.00	.00	.00	2.93	.00								3.06				31.38	
FU/HEAD IN KILOGRAMS	223.57	111.94	.00	335.51	.00	.00	.00	.00	.00	16.99	.00								93.81				451.61	
OTHER BEEF																								
FEED UNITS IN 1000'S	107.00	.00	.00	107.00	411.34	.00	.00	.00	411.34	.00	.00								2932.66				3451.00	
WT IN 1000 MET. TONS	250.93	.00	.00	250.93	685.56	.00	.00	.00	685.56	.00	.00								2932.66				3475.21	
FU/HEAD IN KILOGRAMS	59.12	.00	.00	59.12	265.72	.00	.00	.00	265.72	.00	.00								1894.48				2229.33	
SHEEP ON FEED																								
FEED UNITS IN 1000'S	10.16	.00	.00	10.16	.00	.00	.00	.00	.00	.00	.00								1.30				11.46	
WT IN 1000 MET. TONS	24.19	.00	.00	24.19	.00	.00	.00	.00	.00	.00	.00								1.30				25.49	
FU/HEAD IN KILOGRAMS	51.31	.00	.00	51.31	.00	.00	.00	.00	.00	.00	.00								6.57				57.88	
STOCK SHEEP																								
FEED UNITS IN 1000'S	37.43	.00	.00	37.43	.00	.00	.00	.00	.00	.00	.00								974.11				1011.54	
WT IN 1000 MET. TONS	89.12	.00	.00	89.12	.00	.00	.00	.00	.00	.00	.00								974.11				1063.23	
FU/HEAD IN KILOGRAMS	25.29	.00	.00	25.29	.00	.00	.00	.00	.00	.00	.00								551.18				603.47	
HORSES AND MULES																								
FEED UNITS IN 1000'S	20.24	16.19	.00	36.43	.00	.00	.00	.00	.00	.00	.00								42.57				79.00	
WT IN 1000 MET. TONS	50.60	40.47	.00	91.07	.00	.00	.00	.00	.00	.00	.00								42.57				133.65	
FU/HEAD IN KILOGRAMS	395.66	317.45	.00	714.31	.00	.00	.00	.00	.00	.00	.00								834.71				1549.02	
TOTAL FEED UNITS ...	1-1.77	21.49	.00	203.26	431.92	.00	.00	.00	431.92	16.42	.00								3970.41				4622.00	
TOTAL WEIGHT	441.82	53.51	.00	495.33	719.86	.00	.00	.00	719.86	108.86	.00								3970.41				5294.46	

1973 ROUGHAGE REQUIREMENTS FOR UNITED STATES

LIVESTOCK TYPE	MAY			ALFALFA		CORN	SILAGE		PASTURE	TOTAL
	IN STATE	OUT STATE	IN STATE	OUT STATE	CORN	SORGHUM	PASTURE	TOTAL		
MILK COWS										
FEED UNITS IN 1000'S	1764.94	.00	12454.21	.00	2515.55	144.54	15370.76	3225.00		
WT IN 1000 MET. TONS	4412.34	.00	20757.02	.00	16770.35	802.98	15370.76	58113.45		
AVE. FU/HEAD IN KG.	158.56	.00	1113.88	.00	226.00	12.98	1380.90	2297.31		
OTHER DAIRY										
FEED UNITS IN 1000'S	687.70	.00	2590.33	.00	35.42	13.98	5519.57	8847.00		
WT IN 1000 MET. TONS	1719.24	.00	4317.21	.00	236.13	77.67	5519.57	11629.42		
AVE. FU/HEAD IN KG.	184.22	.00	693.90	.00	9.49	3.74	1478.59	2345.94		
CATTLE ON FEED										
FEED UNITS IN 1000'S	2733.80	.00	.00	.00	143.90	235.93	3207.37	6321.00		
WT IN 1000 MET. TONS	6667.80	.00	.00	.00	799.46	943.72	3207.37	11612.35		
AVE. FU/HEAD IN KG.	218.62	.00	.00	.00	11.51	18.87	256.49	505.42		
OTHER BEEF										
FEED UNITS IN 1000'S	5966.50	.00	16642.09	.00	12.49	.00	178496.92	201111.00		
WT IN 1000 MET. TONS	14552.44	.00	27735.81	.00	69.39	.00	178496.92	220655.37		
AVE. FU/HEAD IN KG.	63.46	.00	177.02	.00	.13	.00	1898.62	2139.23		
SHEEP ON FEED										
FEED UNITS IN 1000'S	15.93	.00	24.04	.00	.00	.00	51.30	95.32		
WT IN 1000 MET. TONS	38.05	.00	46.73	.00	.00	.00	51.30	125.34		
AVE. FU/HEAD IN KG.	6.00	.00	10.53	.00	.00	.00	19.27	35.31		
STOCK SHEEP										
FEED UNITS IN 1000'S	62.48	.00	112.88	.00	.00	.00	8241.32	8413.52		
WT IN 1000 MET. TONS	148.76	.00	188.13	.00	.00	.00	8241.32	8573.22		
AVE. FU/HEAD IN KG.	4.32	.00	7.81	.00	.00	.00	569.90	562.03		
HORSES AND MULES										
FEED UNITS IN 1000'S	2406.10	.00	.00	.00	.00	.00	5499.90	7905.00		
WT IN 1000 MET. TONS	6015.25	.00	.00	.00	.00	.00	5499.90	11515.15		
AVE. FU/HEAD IN KG.	851.11	.00	.00	.00	.00	.00	1945.49	2756.50		
TOTAL FEED UNITS ...	13637.49	.00	31827.55	.00	2707.37	394.44	216387.15	264954.00		
TOTAL WEIGHT	33553.89	.00	53045.91	.00	17875.34	1824.36	216387.15	322646.65		

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